NATIONAL RAILWAYS OF ZIMBABWE
FINAL CLOSE-OUT

REGIONAL TRANSPORT DEVELOPMENT II
PROJECT NUMBER 690-0248

FINAL REPORT

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LIST OF ABBREVIATIONS

AGM	Assistant General Manager
CBZ	Commercial Bank of Zimbabwe
CILP	Commodity Import-Like Program
CIP	Commodity Import Program
COTR	Contract Officer Technical Representative
CP	Conditions Precedent
DE	Diesel Electric
DANIDA	Danish International Development Agency
ERR	Economic Rate of Return
ESAP	Economic Structural Adjustment Program
EOPS	End of Project Status
FINNIDA	Finish International Development Agency
GE	General Electric Corporation
GM	General Manager
GM	General Motors Corporation
GTKM	Gross Ton Kilometer
GOZ	Government of Zimbabwe
IMF	International Monetary Fund
ISA	Initiative for Southern Africa
L/Comm	Letter of Commitment
MEKBF	Mean Engine Kilometers Before Failure
MOF	Ministry of Finance
NPV	Net Present Value
NTKMS	Net-Ton Kilometers
NRZ	National Railways of Zimbabwe
PA	Project Agreement
PACD	Project Assistance Completion Date
PACR	Project Assistance Completion Report
PIL	Project Implementation Letter
PP	Project Paper
PPS	Project Paper Supplement
PSC	Personal Services Contractor
RCSA	Regional Center for Southern Africa
REO	Regional Engineering Officer
RTD II	Regional Transport Development II Project
SADC	Southern Africa Development Community
SARP	Southern Africa Regional Program
SAR	Staff Appraisal Report
TEKM	Train Engine Kilometers
USAID	United States Agency for International Development
US$	U.S. Dollar
VERS	Voluntary Early Retirement Scheme
Z$	Zimbabwe Dollar

TABLE OF CONTENTS

EXECUTIVE SUMMARY

CHAPTER 1.0 BACKGROUND TO THE EVALUATION

1.0 Introduction and Background I.1
1.1 Project Overview I.1
1.2 Project Donors and Financing Plan I.2
1.3 Project Financing I.3
1.4 Project Implementation Schedule I.4

CHAPTER 2.0 COMMODITY IMPORT-LIKE PROGRAM

2.1 Background II.1
2.1.1 Voluntary Severance II.1
2.1.2 Spare Parts Depot and Regional Warehouse II.2
2.2 Description of the CILP II.3
2.2.1 Objectives II.3
2.2.2 Project Implementation II.5
2.3 Administration and Monitoring of the CILP II.7
2.3.1 Purchase and Payment Procedures II.7
2.3.2 Equipment Delivery and Use II.11
2.4 Administration and Monitoring of Transfer to VERS II.12
2.4.1 Transfers and Disbursements from the Special Account II.12
2.4.2 Program Estimates and Costs II.14

CHAPTER 3.0 IMPACT EVALUATION

3.1 Introduction III.1
3.2 Operational Performance III.1
3.2.1 Systems Capacity III.1
3.2.2 Capacity Utilization III.3
3.2.3 Operational Performance Results III.8
3.3 Financial Performance III.9
3.3.1 Financial Impact Analysis III.10
3.3.2 Financial Ratio Analysis III.12
3.3.3 Financial Restructuring III.14

3.4 Organizational Restructuring III.15
3.4.1 Staff Reduction III.15
3.4.2 Management and Staff Training III.15
3.5 Project Administration and Coordination III.16
3.5.1 Project Implementation III.16
3.5.2 Donor Coordination III.17
3.6 Economic and Development Impact III.18
3.6.1 Economic Impact of the CILP III.18
3.6.2 Development Impact III.19
3.7 End of Project Status III.19
3.7.1 Workforce Reduction III.19
3.7.2 Inter-modal Transport Operations III.19
3.8 Sustainability of Development Accomplishments III.19
3.8.1 Liberalized Foreign Exchange Regime III.20

CHAPTER 4.0 FINDINGS, CONCLUSIONS AND LESSONS LEARNED

4.1 Introduction IV.1
4.2 Final level of Inputs and Outputs IV.1
4.2.2 Implementation Results IV.2
4.3 Economic and Development Impact IV.3
4.3.1 Operational Performance IV.3
4.3.2 Financial Performance IV.3
4.4 End of Project Status IV.4
4.5 Sustainability of Development Accomplishments IV.4
4.5.1 Liberalized Foreign Exchange Regime IV.5
4.6 Conclusion and Lessons Learned IV.5
4.6.1 Conclusions IV.5
4.6.2 Lessons Learned IV.6

REFERENCES

ANNEXES

ANNEX A: Assessment of Project Accomplishments - Project Logical Framework

ANNEX B: Traction Fleet and Rolling Stock

ANNEX C: Technical Annex

ANNEX D: Scope of Work

ANNEX E: Profile of End-Use and Importer

ANNEX F: Contact List

EXECUTIVE SUMMARY

Introduction

This evaluation and final close-out report covers the Commodity Import-Like Component (CILP) of the Regional Transport Development II Project, (690-0248) of the National Railways of Zimbabwe. The review period is from 1994 to 1997. The CILP was authorized on February 21, 1995 as an amendment to the Project Agreement of August 22, 1990, at a level of US$4.4 million. Assistance provided under the project included procurement of locomotive spare parts and financial support for a Voluntary Early Retirement Scheme (VERS) for the National Railways of Zimbabwe.

Objectives of the Study

The objectives of this evaluation as set forth in the Scope of Work are the following:

(i) to identify the final level of inputs and outputs provided under the project;
(ii) to provide an end of project status regarding the achievements of the objectives;
(iii) to identify the development impact of spare parts purchased under the CILP component; and
(iv) to assess the sustainability of development accomplishments.

Purpose of the Report

The purpose of this evaluation is to prepare a final evaluation/close-out report and a Project Assistance Completion Report of the Regional Transport Development II Project.

Evaluation Methodology

The evaluation methodology involved reviews of project documents and technical studies, data collection using direct interview techniques, and data analysis and assessments of project component impacts. Stakeholders interviews were conducted with senior managers and technical staff of NRZ, financial institutions, NRZ's Pension Fund managers, and the sole importer.

Summary of Findings and Conclusions

The findings and conclusions of the evaluation are in four categories: (i) the final level of inputs and outputs; (ii) the End Of Project Status; (iii) the development impact of the CILP program; and (iv) the sustainability of development accomplishments.

Final Level of Inputs and Outputs - Commodity Import Like Program

The CILP was designed to contribute to: (1) improved inter-modal transport operations, by providing import financing to the private sector for equipment and spare parts, and for the establishment of a locomotive rehabilitation/maintenance facility, and (2) to improved operational efficiency of NRZ by funding staff reductions under the VERS program.

Despite the broad objectives of the CILP, the programmatic activities undertaken did not achieve the intended impacts. Factors contributing to this were: (i.) the ambitious project design coupled with inadequate project resources; (ii) the introduction of market-based foreign exchange regulations which undermined the financial incentives of the CILP; and (iii) the discontinuity in project management.

Spare Parts Financing. The CILP financed a single procurement of locomotive spare parts valued at US$3.0 million and no equipment for the road transport sector. The spare parts were purchased by NRZ in a transaction only, nominally involving the private sector. The remaining authorized project funds of US$1.4 million were deobligated.

Voluntary Early Retirement Scheme. The CILP anticipated financing the retirement of 1,125 NRZ employees at a cost of Z$40.0 million, However, the actual funding of Z$26.6 million was sufficient for only 400 employees. While a reduction in planned CILP funds contributed to this discrepancy, a more significant factor was the actual cost per employee, which was almost three times the design estimate.

Project Administration and Management

Management. The CILP project managers changed seven times during the life of the project. These changes resulted in inconsistent project direction and follow-up, created inefficiencies and frustrated administration. The failure to exhaust CILP funding by financing imports to meet the stated objectives was due, in some respects, to discontinuity in management. After initial advertisement in early 1995, little or no effort was made to interest private importers, or to implement the inter-modal transport component.

Commodity Import-Like Program. The CILP was administered in accordance with U.S. regulations and acceptable practices by USAID, as the provider of project assistance; NRZ as the end-user and O. Conolly & Co., as the importer. Administration of the CILP proved costly despite the fact a key component was not implemented. Consistent with the CILP's original objectives, the purchase and payment procedures contemplated multiple importers, suppliers and end-users. However, the CILP involved only one importer, a single supplier and a single end-user. USAID expended considerable administrative effort to modify and streamline the procedures to meet the actual demands of the project.

Voluntary Early Retirement Scheme. Administration of funds for the VERS program was straightforward, yet relatively management-intensive. The transactions were executed without any major problems and was supported by adequate documentation. Additionally, the Evaluation Team found no evidence or suggestion of impropriety in the NRZ's Pension Fund's application of funds. The records and practices of the Fund indicate that all local currency provided under the program was paid to NRZ's employees who took early retirement.

Delivery of Goods and End Use. During the evaluation, it was determined that the spare parts imported under the CILP were received, properly inspected and delivered to the appropriate end-user.

The inventory is adequately being managed by the end-user. And the spare parts were used, or are being held for use, for their intended purpose of maintaining NRZ's class DE 10As and DE 11As diesel electric locomotives.

Economic and Development Impact

Operational Performance

Providing locomotive spare parts under the CILP had a significant impact on NRZ'S operational performance. This impact was observed primarily in terms of reductions in the railway's locomotive maintenance backlog and in an increase in locomotive availability.

- *Locomotive availability.* From 1994 to 1996 locomotive availability rates for class 9A shunting locomotive went from 50 percent to about 80 percent, as a direct result of the USAID financed re-engine program. Similarly, mainline locomotives such as the 4 rebuilt DE 10A locomotives went from 63 percent before 1994 to about 70 percent in 1997. Additionally, the 13 new DE 11As consistently achieved average annual availability rates of approximately 80 percent from 1994 to 1997.

- *Freight traffic.* Increased locomotives availability resulted in improved freight operations as wagon utilization improved, leading to increases in the volume of rail freight traffic. Total freight volumes increased from 10.5 million metric tons in 1994 to 12.2 million metric tons in 1997, an increase of 16.5 percent or 1.74 million metric tons.

- *Staffing and productivity.* Workforce reduction and increased labor productivity were key evaluative impacts of the CILP. Assistance provided under the CILP resulted in some 400 employees taking advantage of the VERS program from 1994 to 1997. Similarly, staff productivity, as measured by net tons kilometers/employee increased from 311 NTKMS/employee in 1994 to 426 NTKMS/employee in 1997.

Financial Performance

Despite the significant increase in rail traffic from 1994 to 1997, the impact did not translate into an overall improvement of NRZ's financial position.

- *Operating revenues and expenses.* NRZ had a net surplus in 1994 and 1995 of Z$33.6 million and Z$256.9 million. However, the railway's financial position in 1996 and 1997 revealed net deficits of Z$252.7 million and Z$184.2 million. NRZ did, however, achieve impressive operating revenue gains for the period resulting in a net operating surplus of Z$269 million. Operating revenues for rail services ranged from Z$994 million in 1994 to Z$1.55 billion in 1997, against operating expenses of Z$648 million and Z$1.106 million from 1994 to 1997. Although increases in rail tariffs were contributing factors, much of the operating revenue gains between 1994 and 1997 is directly attributable to the increases in the rail freight volume, as a result of improved locomotive availability.

- *Wage revenue ratio.* Despite the labor force reductions, NRZ did not achieve the target wage-revenue ratio of 35 percent set by the World Bank. This was primarily the results of an enhanced employee remuneration program to retain staff. From 1994 to 1997, NRZ's wage-revenue ratio ranged from 56.6 percent to 54.2 percent, well in excess of the target.

End of Project Status

The PPS identified two End of Project Status (EOPS) indicators for the project. They are: workforce reduction and inter-modal transport operations. The results of the EOPS are the following:

- *Workforce reduction.* The EOPS indicator for workforce reduction was a reduction in NRZ's workforce of 3,000 employees. NRZ did not achieve this EOPS, but did make significant progress. Between the 1994 and 1997, the labor force decreased by 17.8 percent to 11,434 from 13,918 employees. This represents a workforce reduction of 2,484 employees, which is 516 employees below the EOPS target of 3,000. USAID assistance under the project accounted for some 400 employees or 16 percent of the total workforce reduction; and

- *Improved inter-modal transport operations.* Although it was not implemented, this project component would have promoted inter-modal competition, as conceived of in the PPS. As such, no EOPS results are reported on in this evaluation. The assistance would have provided support to road transporters and road construction equipment firms. In 1997, USAID/Zimbabwe deobligated the remaining project funds of US$1.4 million.

Sustainability of Development Accomplishments

The prospects for sustainability of the project achievements are promising. Under a proposed World Bank-financed restructuring plan, NRZ will be separated into three entities (e.g. infrastructure, equipment and operations), and prepared for concessioning or privatization. Project assistance provided under the CILP to improve NRZ's operational and financial performance, supports future restructuring of the railway by reducing the labor force and improving locomotive availability. The new World Bank's project adds to the sustainability of the project achievements by concessioning the locomotives maintained with USAID project assistance, and building upon the reduction in workforce.

Conclusions

The main conclusions of this evaluation/final close-out report are the following:

- the project assistance was provided in accordance with U.S. procurement and disbursement procedures governing Commodity Import Programs, and the use of local currency;

- the project was not implemented as originally designed and the approved inputs such as assistance to the road transport sector were not provided;

- the full development impact of the project was adversely affected by the curtailment of the inter-modal transport operations component of the CILP, and the de-obligation of project funds amounting to US$1.4 million;

- the repeated changes in the USAID project managers, over the life of the project, did not allow for consistency of project implementation actions, follow-ups, monitoring of project elements, and full assessment of the project needs;

- the project was successful in reducing the railways locomotive maintenance backlog and improving the locomotive availability rates of the DE 10As and DE 11As mainline locomotives;

- the project achieved only limited, although significant success, in reducing NRZ's workforce because the average payout exceeded the PPS estimate by a factor of 3;

- NRZ was unsuccessful in reducing the wage-revenue ratio to 35 percent; and

- the financial and operational performance of the NRZ, particularly in rail freight transported and in operating revenues generated, improved significantly during the project.

Lessons Learned

The lessons learned from this evaluation that may potentially inform other project designs, implementation processes and project management approaches are the following:

- For maximum complementary impact, new or amended project elements and programmatic activities should be consistent with, and closely aligned with those of the existing project framework;

- Project elements and programmatic activities should be sized to available resources, in terms of cost both inputs and of administration and management;

- Administrative procedures should be designed such that their cost-effectiveness in light of the project's expected development impact;

- Implementing a Commodity Import Program in an environment of a liberalized foreign exchange market effectively undermines the rationale for such a program. In open market environment, private firms do not have limited access to foreign exchange and are therefore able to import the equipment and spare parts they require; and

- The CILP was over-designed, given its stated objectives, the amount of resources available to implement the project elements, and the modality of implementation. Actual project achievements and the sustainability of these achievements could have been accomplished with far less management resources and in a more cost-effective manner.

CHAPTER 1.0 BACKGROUND TO THE EVALUATION

1.0 Introduction and Background

In August 1990 USAID/Zimbabwe authorized the Regional Transport Development II Project (690-0248) for the National Railways of Zimbabwe at a life of project funding level of US$39.4 million. A project grant agreement was executed in late August 1990 with the Government of Zimbabwe for a first tranche of US$9,372,791. In March 1991, the project agreement was amended and a second tranche of US$30,027,000 was obligated to fully fund the project at US$39,399,791.

The project contributes to the goal of improving the export performance contributing to economic growth. A sub-goal was a reduction in economic losses attributable to costly and unreliable rail transport costs in southern Africa. The project purpose was to strengthen and expand the capacity and operational efficiency of the National Railways of Zimbabwe (NRZ). The original project intervention was USAID's contribution to a multi-donor restructuring program led by the World Bank to improve the operational, financial and managerial performance of NRZ. The original project components included the procurement of 13 General Motor diesel electric locomotives and spare parts.

The Project Agreement was amended in 1992 to provide for: (i) the procurement of 43 Caterpillar engines for shunting locomotives; (ii) spare parts to repair 4 damaged diesel electric locomotives, and (iii) an audit and an evaluation study. The Special/Final Evaluation was completed in February 1994. The recommendations contained in this evaluation formed the basis of an additional amendment to the Project Agreement and the use of the remaining project funds of US$4.4.

1.1 Project Overview

The project contributes to the goal of improving the export performance contributing to economic growth. A sub-goal was a reduction in economic losses attributable to costly and unreliable rail transport costs in southern Africa. The project purpose was to strengthen and expand the capacity and operational efficiency of the National Railways of Zimbabwe (NRZ).

The project represented USAID's contribution to a multi-donor program led by the World Bank to improve the operational, financial and managerial performance of NRZ through restructuring. The project assistance provided for included the procurement of 13 General Motor (GM) diesel electric DE 11A class locomotives and spare parts. The locomotives were to permit NRZ to: 1) replace unsuitable procured prior to Zimbabwe achieving independence; 2) reduced the number of locomotive types in NRZ's fleet from 13 to 5 and benefit from associated cost savings in maintenance, spare parts, and training; 3) and benefit from greater efficiency of North American-designed locomotives. USAID also financed a two-year supply of maintenance spare parts; selected capital spares, tools and testing equipment, technical training for locomotive maintenance and funded a two-year secondment of a locomotive service engineer from GM.

1.2 Project Donors and Financing Plan

The multi-donor effort led by the World Bank to restructure NRZ along with the United States included such countries as Germany, Switzerland, Austria, Finland, Denmark and the United Kingdom. Table 1.1 presents the financing plan for the overall project and the status of donor financial contributions and inputs.

Table 1.1: Co-financing Plan, Inputs and Project Status

Co-financier	Original Pledge (US$ millions)	Currency of Expenditure	Amount Disbursed	Project Inputs	Project Status
World Bank	38.6	US$	23.7	Spare parts, transmission lines, equipment, MIS system, technical assistance & training and studies	On-going
USAID	39.4	US$	38.0	New and rebuilt locomotives, spare parts, technical assistance, training, & retrenchment support.	Completed
KfW	7.6	DM	7.6	Centralized traffic control system	Completed
Finnida	4.7	FM	4.7	Breakdown crane	Completed
Switzerland	2.3	SFR	1.3	Radios	Completed
Danida	3.7	US$	3.7	Technical assistance & training, studies	Completed
Austria	1.8	AUS	1.8	Breakdown crane	Completed
Total	98.1	US$	80.8		

Source: The World Bank, Staff Appraisal Report, 1990 and Interviews, August 1998.

In early 1994, USAID/Zimbabwe commissioned a Special/Final Evaluation of the RTD II which was completed in February 1994. The recommendations contained in this evaluation formed the basis for the present amendment (i.e., the subject of this evaluation) to the Project Agreement and the use of the remaining project funds. The Project Agreement was amended again in 1994 to provide US$4.4 million for locomotive spare parts as well as equipment and spare parts for the road transport sector. The amendment further provided local currency support to finance a Voluntary Early Retirement Scheme (VERS) for NRZ under a Commodity Import-Like Program, as well as extend the Project Assistance Completion Date (PACD) to September 30, 1997. Only US$3.0 million was dispersed under the amendment. The remaining US$1.4 million of project funds were deobligated in 1997 and the PACD was extended to September 30, 1998 to permit the preparation of the evaluation/final close-out report and the Project Assistance Completion Report.

1.3 Project Financing

The original project budget of US$39.4 million is presented in Table 1.2 below. In 1992, Amendment No. 1 added project elements for (i) the repair and rehabilitation of 4 damaged locomotives by O. Conolly & Co., a private firm; (ii) conducting a workshop modernization study; (iii) executive management training and locomotive and payment for wagon-hire charges during the 1991/1992 drought.

Table 1.2: Summary of Project Costs by Element

ITEM DESCRIPTION	ORIGINAL PROJECT BUDGET	PROJECT AMENDMENT I	PROJECT AMENDMENT II	NEW PROJECT TOTALS	DE-OBLIGATED FUNDS
NEW LOCOMOTIVE COMPONENT					
13 New Locomotives					
Spare Parts	22.10			22.10	
Tools and Equipment	2.21			2.21	
Technical Assistance	0.40			0.40	
& Training	1.59			1.59	
Contingencies	2.63			2.63	
Subtotal	28.93			28.93	
REBUILD COMPONENT					
43 Caterpillar Engines		7.00		7.00	
Spare Parts		2,00		2,00	
Tools and Equipment		0.10		0.10	
Technical Assistance		0.06		0.06	
Contingencies		0.92		0.92	
Subtotal		10.08		10.08	
COMMODITY IMPORT-LIKE PROGRAM					
Locomotive Spare Parts	-		3.0	3.0	
Voluntary Early Retirement	-		0.11	0.11	
Evaluation/Final Close-Out					
Subtotal					
Total	**28.93**	**10.06**		**38.0**	**1.4**

Source: Regional Transport Development II, Project Paper, Project No. 690-0248, USAID/Zimbabwe, 1989.

The Project Agreement was again amended with a Project Paper Supplement, Amendment 2, to provide for the procurement of additional locomotive spare parts for NRZ and for road transport equipment under a Commodity Import Like Program. An additional project element included financing for a Voluntary Early Retirement Scheme at NRZ with the local currency proceeds generated from the CILP.

1.4 Project Implementation Schedule

The implementation schedule for the amended project consisted of the following:

Grant Agreement , Amendment 2 Signed:	August, 1994
Grant Agreement, Amendment 2, CPs satisfied:	September, 1994
VERS Begins:	September, 1994
Letter of Commitment	October, 1995
VERS Ends	September, 1997
PACD	September, 1997
PACD Extended	September, 1998
Final Evaluation/Final Close-Out	September, 1998

Chapter 2 below presents a full description of the CILP and its component elements, such as project assistance for the VERS program and the procurement of spare parts for locomotive maintenance. Chapter 2 also discusses the extent private sector participation i.e., importer, supplier and end-user in the CILP, as well as the implementation of the project assistance.

CHAPTER 2.0 COMMODITY IMPORT-LIKE PROGRAM

2.1 Background

USAID/Zimbabwe commissioned an evaluation of the RTD II project in early 1994 to assess the impact of USAID funded contributions to the World Bank-led project to restructure the National Railways of Zimbabwe.[1] The evaluation was also charged with (a) assessing the contribution of the new and rebuilt locomotives to improving locomotive availability, utilization and reliability; (b) assessing the progress of NRZ made in improving efficiency and commercial viability; and (c) assessing additional opportunities for USAID funded interventions to further the project objectives and enhance existing contributions. The 1994 Evaluation identified: (i) support for voluntary severance and (ii) the establishment of a locomotive spare parts procurement/regional warehouse for General Motors (GM) parts as top priorities to enhance the original project interventions. Support for voluntary severance is consistent with USAID strategic objective in the transport sector and with the original World Bank-led project of supporting organizational and financial restructuring. The establishment of a regional spare parts warehouse promotes asset rationalization which is also consistent with the original project purpose. The RTD II project was amended to provide support for both voluntary severance and a regional spare parts warehouse under a Commodity Import-like Program.

2.1.1 Voluntary Severance

NRZ's labor force in 1994 was estimated at between 13,000 and 13,918. Since 1994, NRZ has been steadily reducing its staff using such program as VERS and other methods as attrition. Under the VERS program, an employee may submit an application which, if approved by the Railway, entitles the employee to enter early retirement. The employee receives benefits calculated under an established formula. The cost of the scheme is shared by NRZ and the NRZ Contributory Pension Fund, which administers and accounts for retirement payments.[2]

The VERS retirement package is based on the amount of pension earned and is calculated according to NRZ Pension Fund standards and actuarial formulae. It consists of a commutation, or an up-front payment, of one-third of the pension with the remaining two-thirds or residual pension payable in increments until the retiree's death. NRZ's contribution consists of one-third of the commutation, plus the entire periodic residual pension until the retiree reaches age 60. The remaining two-thirds of the commutation and the incremental payments after age 60 are the responsibility of the Pension Fund.

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[1] The 1994 evaluation report covered the period from 1990 to 1994. The report was titled "Special/Final Evaluation" and was prepared by Morrison Knudsen Corporation.

[2] The NRZ Contributory Pension Fund is constituted under a Trust Deed and Rules in 1949, is regulated by the Pension and Provident Funds Act of 1970, as amended.

During the 1994-97 period NRZ estimated some 3,000 employees would choose early retirement. The railway required financing for its share of the early retirement settlements. The 1994 Evaluation of the RTD II project recommended USAID consider providing local currency support for the VERS project through a Commodity Import Program focused on business and telecommunications equipment.

2.1.2 Spare Parts Procurement and Regional Warehouse

USAID's strategic objective for the southern African transport sector and under the RTD II project and other railway projects in Tanzania, Zambia, Malawi and Mozambique was to improve operational efficiency. This was to be accomplished by providing motive power in the form of new or rebuilt GM and General Electric (GE) locomotives. One of the key factors in achieving a high rate of motive power availability is easy access to spare parts. The region's railways face two problems in acquiring locomotive spare parts. These include: (a) lack of financing and (b) the time lag of six or more months between parts orders sourced in the U.S. to actual delivery. These circumstances, ***inter alia***, drive locomotive availability rates down and constrain operational efficiencies. Putting aside the critical question of the railways' ability to pay, a regional depot could help solve the problem of delay in receiving spare parts.

The concept of a regional spare parts warehouse for the mutual benefit of the railways and U.S. manufacturers had broad support. It is unclear as to the commercially feasibility of such a facility. There may be no financial advantage for a company to warehouse spare parts for resale unless it also maintains a complementary business in locomotive maintenance service and overhaul of locomotives for the railways. Building, equipping and staffing a maintenance facility require extensive capital outlays which cannot be justified on the basis of the existing market.

In 1994, O. Conolly & Co., the General Motors (GM) dealer for Zimbabwe, proposed the establishment of a regional locomotive facility to provide maintenance and accident repair. Such a facility would provide timely access to GM spare parts and support for approximately 119 GM locomotives in the region. O. Conolly estimated the capital cost in construction, machinery, equipment and training at over US$7 million, and the initial stocking requirements for the parts depot at US$2 million. O. Conolly presented the proposal to USAID/Zimbabwe, as well as development assistance agencies in Washington D.C. and to the Canadian International Development Agency in Ottawa.

The 1994 Evaluation Team concluded the proposal for a GM spare parts depot had the potential to reduce out-of-service time for locomotives requiring heavy maintenance, both at NRZ and in the region at large. It recommended that USAID provide a US$1 million grant and the World Bank, a concessionary loan for the establishment of a regional warehouse.

2.2 Description of the CILP

2.2.1 Objectives

On the basis of the 1994 Evaluation and NRZ's stated priorities, USAID/Zimbabwe proposed a US$4.4 million CILP under Amendment 2 of the RTD II project for the purpose of generating local currency to support the VERS program. The CILP departed from the recommendations of the 1994 Evaluation and from the rail subsector in two important respects: First by taking on an expanded mission to support a locomotive repair center rather than simply a spare parts depot; and second by proposing interventions for the road transport sector that included civil works equipment transport vehicles and engines.

The CILP was designed to make financing available to private sector dealers for the purchase of transport equipment and spares parts, with the objectives of:

a) supporting the transport sector by increasing inter-modal transport efficiency through activities such as assisting in the establishment of a regional locomotive rehabilitation/maintenance center for re-engining as well as rehabilitating trucks and other transport equipment; and

b) providing road maintenance and other transport equipment to assist with activities such as maintaining farm-to-market rural roads.

Amendment 2 of the Project Paper Supplement (PPS)[3] described the CILP and VERS programs in terms of meeting the NRZ's increased interest in restructuring and bridging support to NRZ for staff reduction pending Non-Project Assistance under the then proposed USAID Regional Railway Restructuring Program. Additionally, the CILP would: (i) promote private sector involvement in locomotive maintenance and repair service; (ii) help maximize RTD II's investment in locomotives; and (iii) also serve U.S. commercial interests.

2.2.1.1 The CILP Output

The logframe of the PPS listed improved inter-modal transport operations as the only output of the CILP. The measurable indicators are the numbers of truck engines and volume of trucks spares and motor graders sold in CILP Pilot project area.

Amendment 2's additions to RTD II project logframe under the CILP do not specifically mention the regional locomotive maintenance center nor locomotives. Nevertheless, in light of its background, stated justification and actual implementation, the measures of NRZ's locomotive availability or

[3] References the document circulated on September 13, 1994, under an Action Memorandum dated August 30, 1994, which appears to be the final version but is not signed.

maintenance capability set forth in earlier project objectives merit consideration in assessing impact of the CILP.

2.2.1.2 The VERS Output

As indicated in the PPS, staff rationalization was critical to improving profitability and labor productivity at NRZ. Amendment 2 sought to further these objectives by providing local currency proceeds to NRZ to finance early retirements under the VERS program from the spare parts purchased under the CILP. The estimated average payout per employee cost under the VERS program was Z$32,000. The spare parts and equipment purchases under the CILP were authorized at a funding level of US$4.4 million. On the basis of the authorized funding, the CILP program should have produce Z$36 million to fund the VERS program. This amount was sufficient to fund NRZ's contribution to the retirement packages 1,125 employees seeking early retirement.

The logframe of Amendment 2 indicates the expected output for the CILP's local currency contributions to the VERS program as NRZ's workforce is reduced from 13,300 to 10,300. While no indicators are specified to measure the impact on profitability, labor productivity and utilization of previous USAID investments, it can be inferred from the Conditions Precedent to disbursements and the Covenants the key indicators to monitor project implementation.

The Conditions Precedent of Amendment 2 required NRZ to present to USAID prior to disbursements in form and substance of evidence of policies to:

a) achieve, within two years from the signing of the Grant Agreement, a performance target not less than 400 (from 319) average annual net ton-kilometers of freight traffic per employee; and

b) reduce wage expenses to no more than 35% (from 46%) of revenues within three years from the signing of the Grant Agreement.

c) preclude rehiring of employees retired; and

d) clear the existing maintenance backlog.

NRZ complied with the Conditions Precedent to the satisfactions of USAID.[4]

In addition to the above Conditions Precedent, the PPS also amended the RTD II Project Agreement to include following Covenants:

1) introduce the Flexi-Link system of crew scheduling; and

[4] USAID/Zimbabwe was satisfied with NRZ's compliance with the Conditions Precedent , as set forth in Project Implementation Letter No. 43 dated 29 June 1995.

2) safeguard U.S. jobs

2.2.2 Project Implementation

2.2.2.1 *Implementation Design*

Although the PPS for the CILP focused on NRZ's need for spare parts and the advantages of a regional locomotive repair facility, it also considered funding other pilot projects. Possible pilot projects included financing engines for vehicles, particularly passenger buses and trucks, and civil works equipment, such as road graders for use in rural areas to maintain farm-to-market roads. Of the US$4.4 million authorized under the project amendment, these elements were expected to absorb some US$1.4 million and the US$3 million would finance spare parts for the locomotive repair facility.

The CILP, as designed, effectively permitted only a limited number of importers, possibly five or six, to participate in the program. The intention was to provide an opportunity to support and test the viability of shifting USAID's assistance away from the public sector to the private sector. The project designers considered this to be a key advantage of the proposed Amendment. To generate interest in the CILP, Mission staff contacted local manufacturers' representatives including Cummins Diesel International, Clayton's Agencies, Zemco (Caterpillar), Blackwood Hodge (all Zimbabwean), and GE Technical Services (Swaziland); spoke with Champion Road Machinery representatives from the US and Canada; and advertised locally and in the U.S. However, the results of these surveys were tepid not only on the part of potential importers, but also local banks as well as the Ministry of Finance (MOF). The importers were apparently satisfied with normal import procedures. More importantly, the Government of Zimbabwe had recently liberalized its foreign exchange market under an IMF-inspired Economic Structural Adjustment Program (ESAP) in 1993. The liberalization permitted access to foreign exchange at market rates and had the effect of undermining the CILP. To heighten interest and make the CILP competitive with the inter-bank foreign exchange market, USAID offered importers liberal payment terms of 120-days.

During the project design review questions of absorptive capacity, project focus and manageability were raised. The question of absorptive capacity was whether the need for incentives was a sufficient basis for the CILP and whether the terms constituted subsidized credit to the private sector. The CILP was considered to be less economically distorting than other USAID interventions. Moreover, the CILP was to be implemented in the private sector with private sector financing with the expressed purpose of shifting commercial activities out of the government sphere.

The question of project focus was whether the Amendment 2 was on the need for spare parts or the need to streamline NRZ's organization. The PPS concluded that a CILP and the use of local currency to finance the VERS program best addressed NRZ's needs to fund staff reductions, as well as the need for GM spare parts for the regional spare parts depot. The CILP had the additional advantage of keeping assistance within the RTD II original project framework and required only the reprogramming of funds. The only significant difference was the shift away from support of a

parastatal to support for the private sector. The project designers considered this approach to be, ultimately, more sustainable for equipment maintenance and for rail operational efficiency.[5]

The CILP's limited number of importers was expected to permit a manageable administration and project implementation using existing Mission staffing. The RTD II project officer would manage the program, as well as, gather information for reporting and monitoring. The project officer would monitor the receipt of spare parts by the end-user to ensure the intended recipient received the goods and that they were being used for the intended purpose. The USAID/Zimbabwe Controller was responsible for monitoring disbursements, as well as collections and disposition of the local currency. The CILP budget also included an allocation for a PSC Project Officer, if required.

2.2.2.2 Implementation of the CILP

Implementation of the CILP, as designed and the interests of prospective participants, was problematic. The Mission was unable to generate any real enthusiasm for the program. No pilot projects were implemented and only one importer, O. Conolly & Co., one supplier, General Motors, and one end-user, NRZ took advantage of the CILP. The expectation was that import financing would be provided to O. Conolly & Co. to support a regional locomotive center did not materialize. The CILP was neither used to finance a locomotive center nor to establish a spare parts depot as the PPS envisaged.

Even before satisfaction of the Conditions Precedent to CILP funding, the possibility of establishing the regional center/locomotive spare parts depot had become problematic. Without a substantial, reliable market for locomotive repair services, the facility may not have been feasible. O. Conolly was not persuaded that a spare parts depot was commercially feasible, especially given the terms of the company's agreement with GM. GM required the sale of spare parts at list price which did not permit percentage mark-ups to cover financing and other warehouse carrying costs.

In May 1995, O. Conolly applied to USAID to import GM spare parts for NRZ valued at US$3 million, the maximum amount permitted for a single procurement. USAID promptly approved the application, which had specified that payment terms should involve no financial costs or risks to O. Conolly. NRZ determined its most critical needs for spare parts and placed an order. The orders were subsequently delivered under consignment to the railway.

By August 1995, USAID/Zimbabwe's Regional Engineering Officer (REO) had departed country and the Mission was forced to take management decisions that reflected both a global downsizing of USAID field missions and a strategic realignment of more limited resources through regional shifts. USAID's Initiative for Southern Africa in 1994 and the 1995 establishment of Regional Center for Southern Africa (RCSA) in Botswana progressively shifted management and programming responsibilities for the Southern Africa Regional Project portfolio that included transport sector activities to Gaborone. Concurrently, USAID/Zimbabwe was informed that its bi-lateral program

[5] PPS, p. 9.

would be reduced, as well as its operating expense resource requirement for a possible mission close-out. In 1996, the mission became a limited assistance mission that would graduate from development assistance in FY 2003. Following this decision, USAID/Zimbabwe developed a new strategic plan that focused on three strategic objectives intended to consolidate the gains made over the life of US assistance while maximizing sustainability until the 2003 close-out year. Transport assistance to Zimbabwe effectively ended with the exception of the RTD II project when regional activities shifted to the RCSA. Additionally, full-time project management continuity ended when the Project Manager position, then filled by the US direct hire REO, who designed and managed the NRZ project, was eliminated in 1995. As a result of these changes, project management responsibility for the RTD II project, and the subsequent CILP program fell to the Controller's Office. During its four-year history from 1994 to 1997, the CILP saw no fewer than seven different project managers.

In 1995 and 1996, NRZ ordered approximately US$3 million in spare parts through O. Conolly,[6] primarily for schedule G, maintenance service on the GM class DE 10As and DE 11As locomotives. Deliveries occurred from October 1996 to January 1998. Because, no additional importers expressed interests in utilizing the CILP to purchase authorized spare part and equipment, on July 29, 1997, USAID deobligated the remaining US$1.4 million in the CILP program under Amendment 3 to the Project Agreement.

2.3 Administration and Monitoring of the CILP

The primary administration and monitoring responsibilities under the CILP are in the areas of (a) purchase and payment; (b) equipment inspection; and (c) end use of goods.

2.3.1 Purchase and Payment Procedures

For purposes of determining the parties' responsibilities for purchases and payments and how well they were fulfilled, the Team reviewed USAID/Zimbabwe's and NRZ's project documents on credit arrangements, invoicing and payment.

2.3.1.1 Payment Procedures Design

The CILP's original procedures for payment for goods assumed multiple suppliers, importers and local banks. The procedures were as follows:

c) USAID/W opens a U.S. Bank Letter of Commitment (L/Comm) in favor of approved applicant banks; and

d) The Ministry of Finance (MOF) opens a Project Local Currency Account (the Special Account) and, periodically thereafter, to provide USAID with activity reports.

Thereafter, for each procurement the following steps were to be undertaken:

[6] See Annex E for a profile of O. Conolly & Co., the sole importer under the CILP.

1. The importer establishes a letter of credit with an approved local applicant bank in favor of the supplier, within 60 days after USAID's advice that its application for a foreign exchange allocation was approved;

2. The supplier provides documentation to the U.S. bank;

3. The U.S. bank L/Comm pays the supplier and notifies the local letter of credit issuing bank;

4. USAID reimburses the U.S. bank;

5. The U.S. bank forwards negotiable shipping documents to the local bank;

6. The local bank debits the importer's account 120 days after the U.S. bank's payment to the U.S. supplier; and

7. The local bank deposits local currency paid by the importer into the Special Account.

2.3.1.2 Payment Procedures Implemented

On June 25, 1995, USAID/W opened a L/Comm with Chemical Bank (later acquired by Chase Manhattan), which included a list of approved local banks. The MOF opened two Special Accounts, one a call and the other, a current account, with the Commercial Bank of Zimbabwe (CBZ).

USAID later modified the local currency payment process to meet O. Conolly's no-risk conditions for the US$3 million spare parts procurement. Further, when it became apparent the CILP would finance only the NRZ spare parts transaction, USAID/Zimbabwe and USAID/W simplified the method of paying GM, the sole supplier, in order to better meet the requirements of a single procurement and save on transaction costs.

a) On July 27, 1995, USAID approved O. Conolly's application, and agreed to back-to-back payments by NRZ to O. Conolly of local currency and remittance by O. Conolly of those amounts to the Special Account.

b) On October 25, 1995, USAID/W reduced the L/Comm by US$3 million in favor of a Direct Letter of Commitment to GM in that amount, permitting payment by Washington, without bank intermediation, on behalf of the mission.

c) In 1997, USAID reduced the L/Comm from the remaining US$1.4 million to 0.

The simplified procedures were in effect for all four payments and transfers, which occurred on the dates indicated in Table 2.1 below.

Table 2.1: Spare Parts Payments

Payment Date	Payment Amount (US$)	Z$ Equivalent
25 Feb 1997	1,886,794.86	19,979,269.71
31 Jul 1997	122,608.52	1,365,714.36
3 Oct 1997	839,254.97	9,483,581.16
10 Feb 1998	12,074.65	148,756.69
Total	**2,860,732.90**	**30,977,324.92**

Source: USAID/Zimbabwe, Office of the Controller, September, 1998

With the exception of the initial payment and transfer, all parties followed the prescribed procedures. On the first payment date, February 25, 1997, NRZ paid O. Conolly the local equivalent of the required payment for the first delivery, approximately US$1.9 million. When O. Conolly attempted to deposit the local currency in the Special Account, the account had lapsed due to inactivity. Upon notification of the correct account number, on or about May 25, 1997, O. Conolly remitted the nominal amount of the payment, about Z$20 million, to the Commercial Bank of Zimbabwe (CBZ). Between February 25, and May 27, 1997, the funds in the Special Account did not earn interest. The financial impact of the delayed payment on the project remains unresolved by USAID.[7]

2.3.1.3 Payment Amounts

On the basis of the agreement with GM, O. Conolly was entitled to receive a commission on the sale of the spare parts purchased under the CILP. As it turned out O. Conolly was but a nominal importer, serving as a conduit to transfer NRZ's payments to the Special Account. NRZ prepared the purchase orders and was the consignee for the locomotive spare parts. The railway both inspected and took delivery of the spare parts. The Team based its assessment of the consistency and accuracy of the purchase orders, invoices and payments on a review of NRZ's files and procurement procedures.

The original RTD II Project Paper determined the procurement procedures and controls of NRZ's Supplies Department were adequate to manage the original procurement of over US$30 million. NRZ's current procurement procedures for spare parts purchased under the CILP appear to conform to USAID's previous determination. The review conducted for this Evaluation found that NRZ's purchase orders and delivery records were organized and appeared complete.

[7] Action needed and being taken by USAID/Zimbabwe pursuant to a Memorandum of Chronology was submitted by the Consultants to the Controller, Office of Financial Management for further action.

USAID paid GM in four tranches. Table 2.2 summarizes the purchase order amounts and value of goods received, and compares them to USAID/Zimbabwe's disbursement records. NRZ's records of the delivered price of equipment and USAID's actual payments show a discrepancy of US$46,978, in favor of USAID representing a 1.6% variance. The difference may lie in failure to accurately reconcile credits GM issued to NRZ, pricing changes which occurred between orders and deliveries and adjustments for incorrect parts delivered.

Table 2.2: Summary of USAID-funded Purchase Orders

Order Number	Value of Order (US$)	Value of Receipts (US$)	Amount Outstanding (US$)
9429	1,304,839.70	1,433,635.75	0
9474	531,111.61	531,791.62	-680.01
9513	465,273.15	429,910.88	39,046.36
9607	549,503.38	549,503.38	0
Total	**2,850,727.84**	**2,944,841.63**	**39,046.36**

During the conduct of the Evaluation NRZ's attempted to identify the source of the discrepancy between USAID/Zimbabwe's records of total disbursements and NRZ's computation of the value of equipment received. Although NRZ was unable to reconcile the discrepancy, the variance was insignificant given the thousands of items involved and the total cost of the procurement.

Table 2.3: Reconciliation of Value of Receipts And USAID Payments

Description	Value of Receipts (US$)
Total Value of Receipts	2,944,841.63
Less Purchases met from Credits dues to NRZ	131,086.72
NRZ's Balance	2,813,754.91
USAID's Balance	2,860,732.90
Difference	46,977.99

Source: National Railways of Zimbabwe, Supplies Department, September, 1998

2.3.2 Equipment Delivery and Use

The primary purposes for monitoring the CILP were to verify that the goods invoiced were: (1) received in good order and, if not, insurance claims filed; and (2) utilized in a timely matter for the purpose intended under the project. To evaluate this aspect of the CILP, the Team verified information obtained from USAID with NRZ's records and reviewed NRZ's receiving and inventory procedures.

The purpose of monitoring delivery and utilization of goods procured is to avoid fraud, misuse or abuse of the import program. It bears noting here that, while often a danger in the shipment and holding of goods, potential for conversion in this case is low. According to both NRZ and O. Conolly, the spare parts delivered are only useful in servicing locomotives and are impracticable, if not impossible, to use in other machinery. While some items with apparent broader application might present a temptation to the uninitiated, persons who have access to them are aware of their limited utility.

2.3.2.1 Spare Parts Delivery

The spare parts shipments were delivered to NRZ in four groups, from late 1996 to early 1998. USAID's project officers inspected the first three deliveries. These three deliveries constituted all but about US$12,000 of the total costs of the spare parts purchased under the program. USAID's project officers were present when the cases were opened and checked the invoices of at least 10% of the shipment. And, in some cases up to 100% of the value of the delivery was inspected. NRZ kept detailed records of discrepancies among or between orders, invoices and shipments, including items incorrectly priced, shipped in error, or damaged in transit. NRZ's files contained numerous letters to GM regarding adjustments to parts ordered. However, when NRZ made claims for damaged parts, GM replaced them and no insurance claims were filed.

2.3.2.2 Spare Parts Utilization

NRZ's inventory procedures and practices are well-established. The Financial Accounting Capability Assessment included in the RTD II Project Paper concluded that NRZ's systems for maintaining accounting and physical control over inventory from the point of receipt to the point of issue to workshops were fundamentally sound for purposes of physical safeguarding, use and auditable record keeping.

The procedures described by NRZ during the evaluation are consistent with those described in the RTD II Project Paper. NRZ adhered to established physical and documentation requirements for receiving, inspection, coding, shelving, and releasing parts on requisition by the Mechanical Engineering Department. NRZ also adhered to applicable accounting and security controls. Stockroom records appeared up-to-date, and staff believes that recent partial automation of record keeping has facilitated their work.

Despite scattered cases of coils throughout NRZ's stores, the stockroom was tidy. The spare parts were coded and neatly arranged on shelves. NRZ spare parts stocks seemed sparse during the evaluation. It also appeared that the receiving area had not taken delivery of a spare parts shipment in some time.

2.4 Administration and Monitoring of Transfers to VERS

2.4.1 Transfers and Disbursements from the Special Account

From an administrative standpoint, transfers to and disbursements from the Special Account for the benefit of the VERS program proceeded in a straight-forward, transparent fashion. The procedures for disbursing local currency were as follows:

1) USAID/Zimbabwe notified the NRZ Pension Fund of balances in the Special Account at the CBZ.

2) The Fund responded by providing USAID/Zimbabwe with a list of volunteer retirees and the amount representing the NRZ contribution to be funded by the Special Account.

3) USAID issued a Project Implementation Letter (PIL) to the MOF to transfer the funds from the Special Account to the Fund's CILP/VERS account at Barclay's Bank Main Branch.

4) After receipt of the amount approved, the Pension Fund remitted a check to each employee previously identified to USAID/Zimbabwe.

The Special Account disbursed Z$33.7 million to the NRZ Pension Fund, under 12 separate PILs, as shown in Table 2.4. Additionally, the VERS program received additional support from USAID, which disbursed approximately Z$26.6 million from September 1994, to March 1995.

Table 2.4 - Special Account Disbursements to NRZ's Pension Fund

Project Implementation Letter	Issue Date	Disbursement Amount Equivalent (Z$)	Number of Retirees
PIL No. 52	21 Jul 97	1,280,112.53	6
PIL No. 54	20 Aug 97	507,909.84	8
PIL No. 55	4 Sept 97	4,030,965.95	60
PIL No. 57	20 Oct 97	3,204,082.04	54
PIL No. 58	4 Nov 97	4,219,261.91	62

PIL No. 59	8 Dec 97	8,068,995.83	100
PIL No. 60	15 Jan 98	6,325,110.92	74
PIL No. 61	18 Feb 98	1,409,801.78	18
PIL No. 64	18 Mar 98	536,346.82	6
PIL No. 64 (Amended)	23 Mar 98	116,795.44	1
PIL No. 65	27 Apr 98	562,182.91	4
PIL No. 66	12 May 98	383,717.61	5
PIL No. 68	25 Jun 98	3,097,815.45	5
Total		**33,743,099.03**	**403**

Source: USAID/Zimbabwe, Office of the Controller, September, 1998

The disbursement of funds from the CILP Special Account occurred without any major problems. The only difficulty was the result of confusion regarding the number of the CBZ account indicated previously, when O. Conolly tried to execute the first transfer. The delay in accessing funds appeared to have caused some difficulty for the Fund in terms of timely payments to retirees.

Other errors were minor, such as the occasional duplication or omission of a retiree on the payment list. In such cases, USAID/Zimbabwe and NRZ personnel corresponded, followed up and made requested adjustments, all in a prompt, cooperative and constructive fashion. A review of the NRZ Pension Fund system and interviews with responsible personnel at the Fund and Barclay's Bank suggest no impropriety in implementing the procedures.

NRZ Pension Fund officials indicated that there have been no complaints regarding the receipt of benefits due to retirees under the VERS program. In light of current economic conditions in Zimbabwe, however, pension benefits now seem extremely small from the perspective of the VERS participants.[8] This circumstance, however, does not relate to the actual use of the CILP proceeds in the VERS program and is beyond the scope of USAID's responsibilities under the Project Agreement.

[8] Some voluntary retirees have expressed unhappiness about certain of the schemeís effects, including the fact, described by a VERS representative in a letter to USAID dated October 6, 1997, that medical plan premiums are payable by the volunteer at the rate applicable to continuing employees rather than the much lower one applicable to normal pensioners.

2.4.2 Program Estimates and Costs

The local currency generated under the CILP program financed NRZ's portion of commutations of 403 retirees at an average cost of almost Z$84,000. During implementation and disbursement, USAID/Zimbabwe project managers did not monitor the impact of the average cost of the retirees' payout on the project intended outcome, nor the fact that Amendment 2 expected the CILP to fund the costs of 1,125 retirees at an average cost of only Z$32,000.

Some of the reasons for the discrepancies in numbers of retirees and average payouts relate to the implementation of the CILP. The deobligation of US$1.4 million or 32 percent of the US$4.4 million CILP project was one major factor. Further, although the US$3 million spare parts procurement was authorized in 1995, due to the relatively late ordering of US$1.3 million of parts, the time lag in delivery and the delay in transferring the first payment to the Special Account, the CILP did not generate the first funds for the VERS program until the end of May, 1997.

According to NRZ, the difference between the PPS estimate in 1994 and actual payments, which began in July 1997 are attributable wage increases to retain staff and compete with the private sector, and to general wage increases and inflation.

The evaluative impacts of the CILP program on NRZ in terms of its operational and financial performance are presented in Chapter 3 below. Chapter 3 also discusses the End of Project Status and economic and development impact of the CILP, as well as assess the sustainability of the project accomplishments.

CHAPTER 3.0 IMPACT EVALUATION

3.1 Introduction

In order to measure the results and assess the impacts of the project inputs provided under the CILP discussed in Chapter 2 above, the Evaluation Team focused its analyses on two areas: (i) the operational performance and (ii) the financial performance of NRZ. The key research questions were to determine how and to what extent the project inputs affected NRZ's operational and financial performance. These research questions are consistent with the original project purpose of strengthening and expanding the capacity and operational efficiency of NRZ.

3.2 Operational Performance

The Evaluation Team assessed NRZ's operational performance by evaluating the railway's: (i) systems capacity (ii) capacity utilization and (iii) operational performance results. Systems capacity refers to what resources (i.e. management, personnel, infrastructure and equipment such as traction fleet and rolling stock, workshop and equipment, etc.) were available for use by the railways. Capacity utilization refers to the quantity of the resources utilized and how the resources were deployed in operations to meet the railway's traffic demand. Performance results refers to what outputs (e.g. rail freight traffic), were achieved by the deployment of the railway's systems resources.

3.2.1 Systems Capacity

The key elements of NRZ's systems capacity evaluated were: (i) management and organization; (ii) system personnel; (iii) traction fleet; (iv) rolling stock; and (v) infrastructure and equipment.

3.2.1.1 *Management and Organization*

The management and organizational structure of NRZ is a top-down railway organization. It consists of a Board of Directors and an executive management committee headed by the General Manager, and four Assistant General Managers (AGMs). The management committee includes the AGMs for Finance, Operations, Technical Services, and Personnel and Administration. The AGMs are supported by middle-level managers or Assistant AGMs, followed by senior technical line managers. The railways management is supported by in excess 11,400 employees system-wide.

3.2.1.2 *Systems Personnel*

The number of employed persons at NRZ ranged from 13,918 employees in FY1994 to 11, 434 employees in FY 1997. For the review period the average annual number of employees was 12,558. By all accounts, the numbers of employed persons at NRZ in almost all categories is well in excess of the number required to move the traffic on offer, thus contributing to system inefficiencies and adding unnecessarily to the cost of operations.

3.2.1.3 *Traction Fleet*

At the end of 1997, NRZ's traction fleet consisted of six classes of locomotives for a total of 169 locomotives. These include diesel electric (e.g. DE 11As, DE 10As and DE 9/9As), other diesel, electric, and steam locomotives.[9] Annex B presents a complete inventory of the locomotive fleet by class and number in each class.[10]

3.2.1.4 *Rolling Stock*

NRZ has a wide variety of freight wagons to meet the railway's traffic demand. The wagon fleet consists of six type of wagons. These include highsided, dropsided, covered, containers, livestock, petroleum tankers, and other tankers. Between 1994 to 1997 the rolling stock ranged from 11,385 to 12,027 freight wagons. Annex B presents wagon fleet by number.[11]

3.2.1.5 *Infrastructure and Workshops*

NRZ's infrastructure consists of 2,759 route kilometers of track of between 1.0 and 1.067 meter gauge. Characteristics of the infrastructure include some 2,712 track kms of single track mostly of 45 kg/meter rail for the non-electrified track, 47 kms of double track of 40 kg/meter rail and 313 kms of electrified track of 54 kg/meter rail. The track is laid on both steel and concrete sleepers of 1,429 sleepers per kilometer on a bed of crushed granite.

Other infrastructure includes two maintenance workshops; one at Bulawayo and the other at Mutare in eastern Zimbabwe. The workshop capacity at Bulawayo which maintains the locomotives supplied under the project is 6 scheduled cyclical maintenance E, F, and G services per month and 4 unscheduled repairs per month. The capacity at the Mutare workshop which maintains the electric locomotives is 4 major services and 3 unscheduled repairs per month.

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[9] DE 9s and DE 9As are shunting locomotives. Because the spare parts are interchangeable, NRZ in late 1994 began to combine these locomotives and now refers to this locomotive class as DE 9s.

[10] In addition to providing locomotive spare parts under the project, USAID also funded the rebuilding of four damaged DE 10As, the re-engining of 43 DE 9A shunting locomotives and funded the procurement of 13 new DE 11A mainline locomotives all of which are included in the locomotive total.

[11] With some 11,385 freight wagons in its fleet and a wagon availability rate in excess of 92 percent, NRZ is believed to have sufficient hauling capacity to meet its current traffic demand. The problem arises in the deployment of wagons in train operations which may not be sufficient to meet freight demand. And although NRZ has a wide variety of wagons, as the future freight commodity mix changes, certain wagon types may not be available in sufficient numbers to meet this changing freight demand.

3.2.2 Capacity Utilization

The following sections assess the extent to which the railway system capacity was deployed in the areas of (i) traction fleet or locomotives, (ii) rolling stock, (iii) staffing; and (iv) workshops and equipment.

3.2.2.1 *Locomotives*

Locomotives availability rates for different classes of locomotives are presented below.

Locomotive fleet availability. From 1994 to 1997 NRZ utilized an average of about 69.5 percent of its total locomotive fleet, peaking in 1997 at 71.3 percent. This indicator is exceeding low when you consider the locomotive availability rate for US railways exceeds 92 percent. However, it is not entirely surprising because this locomotive availability rate includes both steam and shunting locomotives.[12] When the traction fleet for mainline locomotives is measured the results are somewhat more impressive. The average availability rate for mainline diesel electric and electric locomotives from 1994 to 1997 was 75.6 and 78.2 percent respectively. This however is still below the target rate set by the World Bank of 90 percent for DE 11As and 80 percent for DE 10As class locomotives and in keeping with international railway standards.[13]

Availability rate of new locomotives. The locomotive availability rate for the 13 new diesel electric DE 11A class locomotives provided under the project ranged from 86.5 percent in 1994 to 64.3 percent in 1997. The average locomotive availability rate for the entire period was 79.3 percent. The is well below the target rate of 90 percent established for the project by the World Bank.

Availability rate of re-engined locomotives. Some 43 DE 9 and DE 9A locomotives were re-engined under the project. From 1994 to 1997 the average availability rate for the re-engined DE 9 and DE 9A class locomotives were respectively 82.7 and 73.2 percent.

Maintenance Backlog. USAID supplied spare parts under the CILP program had the effect of reducing NRZ's maintenance backlog, as indicated in Table 3.1. This has resulted in a significant contribution to improving the availability of shunting and mainline locomotives, particularly the DE 9A and DE 11A class locomotives as indicated in Table 3.2 below.

Asset Rationalization. Rationalization of locomotive assets through scrapping was not an objective under the CILP component of the project. The USAID-financed re-engining program which

[12] Locomotive availability measures the number of locomotives available for service as a percentage of the total locomotive fleet.

[13] Locomotive availability is a function of the maintenance capacity of the railway (i.e., equipment and available spare parts, workshop capacity, trained staff and the condition and number of locomotives in the fleet, etc.). As such, the minimum standards for locomotive availability are problematic. However, based on worldwide experience, the World Bank has determined target availability rates for NRZ based on locomotive class. The locomotive availability rates for mainline Class DE 11As, DE 10As locomotives are 90 and 75 percent respectively. For other diesel locomotives such as DE 9 shunting locomotives, electric locomotives and steam locomotives, the target availability rates are respectively 75, 80, and 50 percent.

installed 43 Caterpillar engines in the DE 9s and 9As class locomotives under the original project was completed in June 1994. However, as re-engined locomotives were placed into service, unserviceable locomotives (e.g., DE 2s, DE 3s, DE 4s, DE'6s and DE 7s) were phased out during the 1994-1997 period.

As NRZ moved from routine maintenance (e.g., schedule A, B and C service) and out-of- course maintenance in 1994 and 1995 to more intensive maintenance (i.e., schedule E, F and G service) in 1996 and 1997, the locomotive availability rate declined significantly. This appears to be the result of a lack of spare parts, lack of experienced personnel to carry out schedule E F, and G service maintenance and low quality workmanship for repair services.[14] Nonetheless, NRZ was able to clear its maintenance backlog when the USAID-funded spare parts began arriving in October of 1996.[15]

Table 3.1: Maintenance Backlog And USAID Funded Parts Orders

Year	Loco. Class	Service Type	Loco. Released	Loco. Backlog	Purchased Orders	Receipt Date
1995/96	DE 10A	E	11	8		
	DE 10A	G	6	11	9513	Oct 1996
	DE 11A	E	0	6		
1996/97	DE 10A	E	4	11	9429	Oct 1996
	DE 10A	G	7	8	9474	Oct 1996
	DE 11A	E	6	7	9513	Oct 1996
1997/98	DE 10A	E	5	4	9429	Oct 1996
	DE 10A	F	0	3	9607	Nov 1996
	DE 10A	G	4	0		
	DE 11A	E	6	1		

Source: National Railways of Zimbabwe, AGM for Mechanical Engineering, September, 1998

[14] The first batch of locomotive spare parts purchased under the CILP did not arrive until October, 1996.

[15] One of the Conditions Precedent prior to disbursement of project fund was a policy statement from NRZ on clearing the existing maintenance backlog.

Table 3.2: NRZ's Traction Fleet and Locomotive Productivity

Year	Traction Fleet	Loco. Fleet Avail.	Loco. Utilization (TEKM)	New USAID Loco. Avail. (%)	New USAID Locomotive Reliability (MEKBF)	Re-engined D9A Availability (%)
1994	155	69.5	10,406	86.5	119,000	72.3
1995	164	67.5	10,961	87.5	67,775	79.8
1996	169	69.8	10,914	79.0	51,000	78.3
1997	169	71.3		64.3	43,500	62.5

Source: National Railways of Zimbabwe, Planning Office, 1998

3.2.2.2 Rolling Stock

Presented below is an assessment of the railway's rolling stock. The section reviews such indicators as wagon availability, average wagon payload, wagon utilization, empty running ratio and net-tons per kilometer per wagon. The results of the railways capacity utilization are presented below.

Wagon availability. NRZ achieved a high wagon availability rate over the period under review. Wagon availability was in excess of 90 percent.[16] Although USAID supplied spare parts has not had an impact on the supply of NRZ 's rolling stock, increased locomotive availability, utilization and reliability resulting from USAID supplied locomotive spare parts is positively correlated with improved wagon utilization.

Average wagon payloads. Loaded wagons of between 36-38 tons are less than the full load capacity (40 to 45 tons) of most wagons in NRZ's wagon fleet. The general practice in southern Africa is for the shipper to load his own wagons. The practice is inefficient and results in the use of additional wagons. For example, assuming an average wagon capacity of 45 tons and an average payload of 37 tons, for every five wagons loaded an additional wagons is required to haul the same volume that five wagons should haul.[17] Often foreign for-hire wagons are unduly detained to equalize the wagon supply with the freight demand, thus increasing the railway's expenditures. A more efficient deployment of wagons would significantly reduce the need for foreign wagons on NRZ's system and thus reduce wagon hire expenditures.[18]

[16] Wagon availability measures the number of freight wagons available for service as a percentage of the total rolling stock.

[17] NRZ has considered changing its tariff structure whereby the rate takes into account the full wagon load whether the shipper loads the wagon at full capacity or not.

[18] In 1994 NRZ leased a total of 3,522 foreign wagons. Effective as of September 1994, NRZ completed the purchase of the leased wagons.

Wagon utilization. Wagon kilometers per day measure wagon utilization and indicate the extent of wagon productivity. Between 1994 and 1997, the railway achieved about 46 wagon kilometers per day, with an average length of haul of about 400 kilometers. This means it takes NRZ approximately 9 days to complete a haul. The World Bank's target rate for NRZ is on the order of between 50 and 70 wagon kilometers per day. Such low wagon utilization creates artificial shortages of wagons in the system.

Empty running ratio. This ratio measures the number of empty wagons in use against the total number of loaded wagons in service and is expressed in percent. From 1994 to 1997, NRZ's empty running ratio averaged 37.3 percent. The results suggest some inefficiency in NRZ's train operations, because more than a third of the wagons in service are running empty.

Net ton kilometers per wagon day. This indicator measures wagon productivity expressed as the volume of freight in net tons hauled divided by the numbers of wagons in service per day. The net ton kilometers per wagon day ranged from 1,238 NTKMS/wagon day in 1994 to 1,200 NTKMs/wagon day in 1997. During the period under study, the annual average NTKMS/wagon day was 1,176 NTKMS/wagon day.

Table 3.3: NRZ's Rolling Stock and Wagon Productivity, 1994-1997

Year	Rolling Stock (No. of wagons)	Wagon Availability (in %)	Wagon Util. (Wagon KM/ Wagon Day)	Empty Running Ratio (in %)	Wagon Productivity (NTKM/ Wagon Day)	Average Wagon Load (in Tons)
1994	11840	92	45	39	1,238	36.7
1995	12027	95	48	37	1,055	36.0
1996	11456	96	51	36	1,198	36.2
1997	11385	92	50	36	1,200	--

Source: National Railways of Zimbabwe, Planning Office, September 1998

3.2.2.3 *Staff Productivity*

Despite NRZ's exceedingly large labor force, the railway's performance, as it relates to staff productivity, revealed a positive trend for the study period. The output of NRZ's employees, as

measured by net ton kilometers per employee, showed a significant improvement in productivity over the period under review. As indicated in Table 3.4 below, staff productivity went from 311 NTKMS/employee in 1994 to 426 NTKMS/employee in 1997. This is an increase of roughly 37 percent for the period or annual average increase of about 12.3 percent per year.

The main contributing factors to these staff productivity increases were decreases in NRZ's total workforce and a significant increase in total net tons kilometers for the period. These results are clearly in line with Conditions Precedent, as specified in the PPS whereby NRZ undertakes to provide USAID with a policy statement to achieve a performance target of not less than 400 NTKMs/employee within two years from the signing of the Grant Amendment.[19]

Table 3.4: NRZ's Staffing and Staff Productivity, 1994-1997

Description	1994	1995	1996	1997
Total Employees	13,918	12,975	11,908	11,434
NTKMS/Employee	311	366	421	426
Employees/Route-Km	5.04	4.70	4.32	4.14

Source: NRZ, Planning Office, September, 1998

3.2.2.4 Infrastructure and Workshops

Presented below is a brief discussion of NRZ's workshop capacity utilization and the railway's efforts to modernize its workshop facilities as recommended under the USAID-financed Workshop Modernization Study of 1994.

Workshop Utilization. Were the two workshops to operate at full capacity, only 10 locomotives per month could be serviced for cyclical maintenance. Under this scenario, the entire mainline locomotive fleet could be serviced every 11 months. However, the main constraining factors to NRZ achieving such a high maintenance output are: (i) lack of spare parts; (ii) lack of skilled personnel or inadequately trained personnel and (iii) poor quality workmanship. These factors taken together result in frequent breakdowns of the locomotives requiring repeat out-of-course or unscheduled maintenance.

Workshop Modernization. Recommendations to modernize NRZ's workshop were made in the USAID-funded Workshop Modernization Study of 1994. The recommendations included: (i) reorganizing the erecting shop into a locomotive heavy service and centralized component repair;

[19] The reader should be aware USAID/Zimbabwe was not required to monitor this indicator, rather this was only a Condition Precedent which NRZ complied with in meeting the funds disbursement obligations.

(ii) shutting down the carpentry and millwright shops; (iii) establishing a new bogie shop; (iv) eliminating the foundry at the Bulawayo Workshop; and (v) eliminating the blacksmiths, plater welder, pattern, shed boilermaker steam sheds and steam locomotive hospital. NRZ has fully implemented two of the five recommendations and has made significant progress in implementing the remaining three. The recommendation on workshop modernization, most relevant for this evaluation, was the separation of the locomotive heavy service from the centralized component repair facilities. This recommendation had implications for locomotive repair services, and was fully implemented by NRZ.

3.2.3 Operational Performance Results

The Evaluation Team conducted an analysis of NRZ's operational performance from 1994 to 1997 based on its capacity utilization to determine if measurable impacts and trends could be discerned as a result of the project inputs. Specific impacts analyzed included changes in freight traffic volumes and commodity type, and changes in freight operations.

3.2.3.1 *Freight Traffic*

NRZ's freight traffic consists of imports, exports, local and transit traffic. As Table 3.5 indicates, the main commodity groups and relative freight volumes transported by rail include agriculture, minerals, livestock fuels and chemicals, metals, general goods and miscellaneous items.

3.2.3.2 *Freight Volumes and Commodity Types*

NRZ's traffic volume averaged some 11.7 million metric tons between 1994 and 1997. The commodity mix as revealed in Table 3.5 below indicates that the agriculture and fuel and chemical sectors represented the largest share of NRZ's traffic base. These two commodity groups accounted for about 60 percent of the NRZ's total freight traffic between 1994 and 1997. As revealed in Table 3.5, the commodity mix has not changed substantially and has remained relatively stable during the 1994-1997 period. However, significant improvements can be observed in total freight volumes. Total freight volume increased by an impressive 16.5 percent or about 4.1 percent annually from 1994 to 1997. This increase represented a gain of 1.74 million metric tons over four years.

3.2.3.3 *Freight Operations*

To assess the impact of USAID-funded project inputs on NRZ's freight operations for the period under study, the Evaluation Team considered several key productivity indicators, as presented in Table 3.6. No discernible pattern can be determined from NRZ's operational performance between 1994 and 1997. In fact as Table 3.6 reveals, in all productivity categories, the performance was uneven with modest productivity gains in some years and modest declines in other.

USAID's assistance to increase available motive power through the provision of locomotive spare parts had a significant impact on NRZ's traffic performance from 1994 to 1997. Total rail freight averaged 11.7 million metric tons over the period under review. Such traffic performance indicates

an overall positive trend. Total freight traffic was 10.5 million metric tons in 1994 and by 1997 it had increased to 12.24 million metric tons. Such a significant improvement in NRZ's traffic performance represents an average annual increase of approximately 4.8 percent.

Table 3.5: Rail Freight Traffic by Commodity Type (000 Tons)

Year	Agri-culture	Minerals	Fuel & Chemicals	Metals	General Goods	Live Stock	Totals
1994	3,203	2,004	3,215	613	1,461	7	10,5O3
1995	3,706	2,316	3,561	714	1,705	8	12,010
1996	3,817	2,333	3,837	717	1,403	12	12,119
1997	3,440	2,323	3,927	755	1,671	123	12,239

Source: NRZ, Planning Office, September, 1998

The receipt of USAID-funded locomotive spare parts in 1996 had the effect of increasing available traction power between 1996 and 1997. This translate into additional train engine kilometers (TEKM) as revealed in Table 3.6.

Table 3.6 - Rail Freight Operations, 1994-1997

Year	Gross Ton- Km (millions)	Net Ton-Km (millions)	Train Engine Km (000)	Avg. Length of Haul (in kms)	Wagon Km (millions)	Avg. Wagon Load (Tons)	NTKM/ Wagon Day
1994	9,876	4,327	10,406	401	194	36.7	1,238
1995	10,102	4,754	10,961	391	211	36.0	1,055
1996	9,821	5,011	10,914	406	216	36.2	1,198
1997	9,039	4,871	10,753				1,200

Source: NRZ, Planning Office, September, 1998

3.3 Financial Performance

The extent to which the project had a financial impact on NRZ's financial performance is presented in Table 3.7. The financial impact of the project is clearly a direct result of NRZ's improvements in locomotive and wagon availability, wagon kilometers, average length of hauls, and tons hauled, etc.

3.3.1 Financial Impact Analysis

The financial impact of the project inputs should be discernible from the railway's financial statements. The Evaluation Team conducted a review of NRZ 's financial statements including its balance sheet, income statement and cash flow statements for fiscal years 1994-1997 to assess any measurable impacts of the project.

NRZ's overall financial performance for the period under study has been uneven in many key areas, but generally unsatisfactory. Full details of NRZ's financial performance for the past four fiscal years are presented in Annex C. In summary, gross income ranged from Z$ 944.4 million in 1994 to Z$1.626 billion in 1997 against gross expenditures of Z$1.077 billion to Z$1.808 billion in comparable years. The results as indicated in Table 3.7 below reveal that NRZ has not been able to meet its expenditure requirements in only two of the past four fiscal years. In the past two financial years, NRZ reported deficits of Z$184.2 million and Z$ 252.7 million in 1997 and 1996 respectively.

Table 3.7: NRZ's Financial Performance, 1994-1997

Year	Gross Income (000 Z$)	Gross Expenditure (000's Z$)	Net Surplus (Deficit)	Working Ratio (in %)	Operating Ratio (in %)	Wage-Revenue Ratio (in %)
1997	1,624,152	1,808,319	(184,167)	1.11	71.1	56.6
1996	1,266,877	1,456,014	(252,701)	1.15	80.4	53.2
1995	1,082,230	1,170,959	256,867	1.08	80.3	52.2
1994	944,356	1,077,986	33,587	1.14	77.2	54.2

Source: National Railways of Zimbabwe, 48th Annual Report, December 1997

Much of the gain in NRZ's financial position from 1994 to 1997, particularly in its operating revenues, can be attributed to increased traffic volumes as result of additional traction power. In 1994 NRZ was provided with two USAID-rebuilt locomotives. USAID-funded locomotive spare parts also contributed to NRZ tractive effort by increasing the locomotive availability rate. Additionally, increases in the level of tariff rates charged on freight traffic has also contributed to NRZ's revenue gains. Gross revenues grew at an average annual rate of 18 percent from 1994 to

1997. This represents a revenue increase of Z$ 679.8 million. Conversely, gross expenditures also increased over the same period by 67.7 percent (Z$ 730.3 million) or by an average annual rate of 16.9 percent.

3.3.1.1 *Operating Revenues and Expenditures*

Between 1994 and 1997 NRZ 's operating revenues from rail services ranged from Z$994 million to Z$1.555 billion with an annual increase of about 23 percent. This is against operating expenses of Z$648 million to Z$1.106 billion during the same period. Although operating expenses did not keep pace with operating revenues the average annual rate of growth of expenses was still excessive at 19.6 percent. Although gross expenditures increased at a lower rate over the period than revenues the expenditures started from a higher base than revenues in 1994. Thus, the net results are financial deficits in 1996 and 1997, as Table 3.7 reveals.

3.3.1.2 *Net Operating Income*

Despite NRZ's impressive operating revenue gains over the past four years and an average annual net operating surplus of Z$267 million, NRZ's financial position continues to be eroded by extraordinary high expenditures, particularly wage-based expenditures and debt-service obligations, as a percentage of total revenues. Wage-based expenditures, as previously indicated, alone account for in excess of 50 percent of revenues.

*3.3.1.*3 *Tariffs and Rate Setting*

NRZ's ability to unilaterally adjust tariffs has been a major contributing factor to improving its operating revenue performance between 1994 and 1997. During this period with few exceptions tariff rates were adjusted in virtually every quarter for virtually every freight commodity transported by NRZ. From April 1994 to July 1996, NRZ increased tariff rates ever three months from between 5 to 12 percent. From July 1996 to January 1998, tariff increases ranged from 7.5 to 20 percent per quarter, and at the margins ranged from as much as 60 to 100 percent on some commodities.

During preparation of the PPS, the Mission's staff was of the view that if operating expenditures were to decrease as a result of USAID assistance for the VERS program, tariffs would not have to be raised. In fact, just the opposite occurred. Not only did operating expenditures increase, tariff rates also increased during the review period.

Two issues that relate to unilateral tariff rate adjustments by NRZ are the following:

Price Effects of tariff adjustments. The direct effects of unilateral tariff rate adjustments by NRZ on final demand (production and consumption) during the period under review is not entirely clear, absent detail studies.[20] NRZ estimates, based on its surveys and demand elasticity studies, some

[20] During field interviews NRZ's Marketing Department was not able to provide any detailed information such as market survey data or price elasticity studies on the effects of tariff rate adjustments for different commodity groups transported by rail. As such, the Consultants are unable to make any judgments as to the reliability of NRZ's statements on the effects of tariff rate adjustments

commodities such as milk, flour, maize and fertilizers, etc., experienced price increases, directly attributable to tariff rate changes, of about 10 percent.

Government control. Although NRZ has the right to unilaterally adjust commodity based tariffs once approved by its Board of Directors, GOZ retains the final authority to control tariffs rate adjustments to avoid an inflationary situation from developing and to reflect broader macroeconomic conditions in Zimbabwe.

3.3.1.4 Wage Bill

One of the main purposes of the USAID-funded project support to NRZ was to reduce the railway's labor force with the intention of reducing the wage bill. This was expected to assist the railway in reducing its high cost structure. Between 1994 and 1997, as Table 3.8 reveals, NRZ's wages-revenue ratio was excessively high at between 52 to 57 percent. Despite a reduction in the labor force by some 2,500 employees over four years, of which about 400 was attributed to USAID funding of the VERS program, NRZ has not been able to substantially reduce its wage-revenue ratio. Any improvements in NRZ's high cost structure, particularly its wage bill, such as USAID support for the VERS program was offset by increases in salary costs. Beginning in 1996 NRZ embarked on an employee retention program to increase employee remuneration packages. As a result, salary adjustments were made and by 1997, NRZ wage costs increased to 56.6 percent of total revenues, as revealed in Table 3.8 below.

The Conditions Precedent, as specified in the PPS required NRZ to issue a policy statement to achieve a wage-revenue ratio of 35 percent within three years from the signing of the Grant Agreement, Amendment 2.[21] Although NRZ complied with this Conditions Precedent, the railway was unable achieve the target wage-revenue ratio. This was largely the results of NRZ undertaking a program to improve its remuneration packages for employees. Table 3.8 presents the financial impact of NRZ adjusting its wages to retain staff. Had NRZ not embarked on this program, the wage-revenue ratio would have decreased to 43.2 percent by 1997. This would have been within 8.2 percentage points of the Conditions Precedent. Although NRZ achieved a modest 4 percent decrease in its labor force between 1996 and 1997, this did not result in a improvement in the railway's wage-revenue ratio, as Table 3.8 below reveals. Concurrent with the railway's efforts to reduce its labor force in 1996 and 1997 were salary adjustments which increased NRZ's wage bill and thus its wage-revenue ratio.

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on final demand.

[21] The reference here to the Condition Precedent is for information only. The reader should be aware USAID/Zimbabwe was not required to monitor the target for the wage-revenue ratio during project implementation.

Table 3.8: NRZ's Wages and Revenue Performance, 1994-1997

Year	Staff Numbers	Unadjusted Staff Costs (000's Z$)	Adjusted Staff Cost (000's Z$)	Gross Revenue (000's Z$)	Unadjusted Wage-Revenue Ratio (%)	Adjusted Wage-Revenue Ratio (%)
1994	13,918	511,500	511,500	943,356	54.2	56.6
1995	12,975	564,931	564,932	1,082,230	52.2	53.2
1996	11,908	615,585	674,451	1,266,877	48.8	52.2
1997	11.434	701,791	918,895	1,841,555	43.2	54.2

Source: National Railways of Zimbabwe, Chief Accountant and NRZ's 48th Annual Report, December 1997

3.3.2 Financial Ratio Analysis

The Evaluation Team computed two key financial ratios to assess the ability of NRZ to finance its operations from current income and meet its short- and long-term debt obligations. These include the working ratio and operating ratio.[22]

3.3.2.1 *Working Ratio*

NRZ's working ratios, which averaged 1.12 for the period under review, are presented in Table 3.7 above. This indicates the railway's expenditures were on average 12 percent more that its gross revenues. The working ratios ranged from 1.08 to 1.15.

3.3.2.2 *Operating Ratio*

Table 3.7 above presents the results of the operating ratio analysis. NRZ's financial operating ratios over the period from 1994 to 1997 average 77.3 percent. The operating ratio ranged from a low of 71. 1 percent in 1997 to about 80 percent in 1995 and 1996 financial years. These results indicate that in order for NRZ to meet it total cost plus provide for depreciation and replacement of assets, the railway would have to increase its revenues by an average of 23.7 percent annually.

[22] Working ratio is defined as total cash less depreciation divided by total revenues. Operating ratio is defined as the total operating costs divided total revenues.

3.3.3 Financial Restructuring

3.3.3.1 *Debt-Equity*

NRZ's financial position is burdened with excessive debt, which the railway has been unable to fully service from revenues. In fact, NRZ has only been able to service the interests costs on its debt. At the end of 1993, GOZ adopted the policy that Government would no longer provide subsidies for NRZ 's financial deficits. And that GOZ would take action to convert all debts to equity thus restructuring NRZ finances. Since 1994, little, if any action has been taken by the GOZ to assume the railway's debt obligations. Moreover, Government support to finance NRZ's operating deficits has been inconsistent and insufficient to meet the railways debt obligations. The most promising development occurred last year when the parliament amended the Railway Act to provide for an assumption of NRZ's debt. by GOZ.[23]

3.3.3.2 *Subsidies*

Although GOZ in late 1993 indicated it would no longer subsidize NRZ, until very recently, little if anything was done to assist the railways. As Table 3.9 below indicates, Government report receivables from 1994 to 1996 ranged from Z$ 21 million to Z$ 57 million. Despite including funds in the national budget to finance NRZ deficits, GOZ has not made these funds available. Moreover, the prospects for doing so are not promising.

Table 3.9: NRZ's Financial Deficits for Years 1994-1997 (000's Z$)

Description	1994/95	1995/96	1996/97	1997/98
Deficit	33,587	256,867	(252,701)	(184,167)
Balance Brought Forward	153,646	288,276	327,532	438,669
Government Support Receivable	(47,000)	(21,000)	(57,000)	-

Source: National Railways of Zimbabwe, Chief Account, September, 1998

[23] The Amendment to the Railways Act enacted by the President and the Parliament of Zimbabwe in October, 1997 specifically, "provides for the assumption by the State of the responsibility for discharging certain obligations of the National Railways of Zimbabwe, and to provide for matters connected with or incidental to the foregoing."

3.3.3.3 *Impact of Leased Locomotives*

For the 1994 to 1997 period, there is no evidence NRZ leased locomotives in 1994 and 1995 to facilitate drought relief. As for leased wagons, NRZ leased a total 3,522 wagons in 1994 and later purchased the wagons. After 1994, NRZ had no foreign leased wagons on its system.

3.3.3.4 *Cost-effectiveness of Contract Maintenance*

Contract maintenance of locomotives is one of the least understood activities affecting railways. Because of the technical skills, plant and equipment required few, if any, private firms in southern Africa have the capacity to maintain locomotives on a sustained contract basis. As for contracting to other railways, such as SPOORNET and TransNamib Railways, discussions with NRZ's management suggests the cost advantages are overstated and are marginal at best. For example, SPOORNET's high cost for skilled personnel tends to offset any potential cost advantages the railway may have in performing locomotive maintenance functions.[24] Other prospective contract maintenance firms such as O. Conolly have limited workshop capacity and equipment, and are unlikely to be in a position to service a locomotive fleet the size of NRZ's.

3.4 Organizational Restructuring

Until very recently, organizational restructuring at NRZ has primarily meant two things: (i) staff rationalization and (ii) capacity building. Staff rationalization was to come about through staff reductions under such arrangements as the VERS program. Capacity building was aimed at improving the management and technical capacity of the railway's management and staff through additional training. The results of the railway's efforts to restructure its organization are discussed below.

3.4.1 Staff Reduction

The reduction in NRZ's workforce by 3,000 employees was one of the main purposes stated in the PPS as a means to improving efficiency and to reduce the railways high cost structure. Although NRZ has made substantial progress over the period from 1994 to 1997 by reducing its labor force to 2,500 employees, the labor force remains high at 11,434 employees at the end of FY1997. Assistance provided under the project resulted in the reduction of 400 employees from NRZ's labor force or about 16 percent of the workforce reduction.

3.4.2 Management and Staff Training

A considerable amount of financial resources have been expended to improve the management and technical capacity of NRZ's senior managers and technical staff through additional training. Training for managers and technical staff was carried out primarily under the World Bank's project, although USAID did provide some support to train some of NRZ's senior managers. As Table 3.10 below

[24] SPOORNET, the South African Railway has the capacity to service NRZ's locomotives on a contract basis. NRZ's studies of SPOORNET performing maintenance repair on turbines found no cost advantage in using SPOORNET's services.

indicates, training has affected all areas of railway operations and has involved a total of 6,985 persons, roughly 61 percent of the railway technical staff. An additional 18 managers and senior officers also received training.

USAID support for training under the project involved training for senior managers, such as the AGMs for Operations and Technical Services, as well as the Chief Accountant. The extent of the managerial and technical training of NRZ's managers and staff during the review period was extensive. As such, there is no suggestion of inadequacy or insufficient training in any sector of the railway operations. One of the main areas of focus of the training has been in the area of mechanical engineering, especially locomotive maintenance. Mechanical engineering accounted for roughly two-thirds of all NRZ's trainees since 1994. Although its difficult be precise, to the extent NRZ has been able to improve its locomotive availability rate is the result both training and access to spare parts.

Table 3.10: Management and Staff Training by Category, 1994-1997

Year	Area Mgmt.	Traffic Operations	Commercial Operations	Mechanical Engineering	Signal & Telecoms	Supplies	Total Persons Trained
1994	-	143	81	827	43	16	1,110
1995	129	497	228	2,216	161	263	3,486
1996	195	214	146	636	55	89	1,335
1997	43	279	82	539	79	32	1,054

Source: National Railways of Zimbabwe, AGM for Personnel and Administration, September, 1998

Given the total number and categories of NRZ's staff that received training, the railway is fully confident that it has sufficient personnel to meet future needs. In fact, NRZ has embarked on an accelerated plan to further reduce its workforce to between 7,500 and 8,000 employees by the end of 1998 under a reinvigorated restructuring program.

3.5 Project Administration and Coordination

3.5.1 Project Implementation

The Evaluation Team assessed the impact of the CILP form the perspective of how the project assistance was administered and coordinated by USAID. The Team took into account: (i) the project implementation and management; (ii) the macroeconomic environment during project design; (iii) project financing and (iv) the expected economic savings from the VERS program.

3.5.1.1 *Implementation and Management*

Implementation of the project after its initial signing calls into question the manner in which USAID implemented the project assistance. Notwithstanding the fact that the project was amended three times since 1990, management of the project has seen a turnover of no fewer than seven different project managers, all with varying degrees of professional skills and technical backgrounds. At least five project managers changed between 1995 and 1997 alone. While there is no evidence the turnover adversely affected the delivery of USAID assistance, there are a number of yet unanswered questions such as: (i) why the project was curtailed and not fully implemented as originally designed; (ii) why only one importer, one supplier and only one modal operator participated in the CILP; (iii) why the remaining project funds were de-obligated; (iv) why the project was amended three times, which dramatically changed its focus; (v) why no action was taken when it became clear the Condition Precedent regarding the wage-revenue ratio of 35 percent would not be achieved; and (vi) why there was an apparent lack of coordination between donors after 1995? Interviews conducted with each of the project managers did not provide clear answers to these questions. And although there is no suggestion that the delivery of the project assistance, as implemented, was not done in accordance with USAID regulations, the actions and decisions taken between 1995 and 1997 may have contributed to the project not achieving all of its intended goals and objectives.

3.5.1.2 *Macroeconomic Environment*

During preparation of the PPS 1994, Amendment No. 2 in early 1994, the Mission's staff was well aware of GOZ polices of liberalizing the foreign exchange regime under its Economic Structural Adjustment Program. GOZ policies resulted in private firms gaining almost immediate access to needed foreign exchange, particularly for transport sector equipment and spare parts such as trucks, civil works and other equipment. Such policies had the effect of undermining the intended purpose of the CILP because access to foreign exchange by the private firms was no longer a constraint to private sector imports.

3.5.1.3 *Project Financing*

The CILP, as originally conceived of in the PPS, would have made some US$4.4 million available to private firms for the importation of vehicles, equipment and spare parts to road haulers, NRZ and civil work contractors with the intention of fostering inter-modal competition. As it turned out, only one importer (O. Conolly & Co.), one supplier (General Motors), and one end-user (NRZ) participated in the CILP which financed US$ 3.0 million of the authorized funds for locomotive spare parts. The remaining US$1.4 million was deobligated, which may have denied financial assistance to other potential importers, suppliers and end-users the project was designed to assist. The question also arises as to whether there were other more cost-effective modalities other than the CILP mechanism, available to USAID to accomplish the same project purpose.

3.5.2 Donor Coordination

The overall project, as originally designed in 1989 by the World Bank, had no fewer than five donor

agencies and two international financial institutions involved. They included along with USAID, KfW, Austria, DANIDA, FINNIDA, SWI of Switzerland, as well as the World Bank and later the African Development Bank. Initially, donor coordination of the project was to be undertaken by a donor steering committee. For reasons that are unclear, it appears this did not happen. However, between 1992 and 1995, USAID maintained active and on-going contacts with the World Bank as to the implementation status of both USAID and World Bank assistance. This included joint project supervision missions to NRZ, exchange of project communications, joint seminars, project planning meetings for the VERS program and other restructuring activities. Subsequent to 1995, when the USAID project manager changed, much of the coordination between the World Bank and USAID that had previously occurred apparently was discontinued.

3.6 Economic and Development Impact

3.6.1 Economic Impact of the CILP

In order to evaluate the economic impact of the CILP component of the project, the Team recalculated the economic savings presented in the PPS. This recalculation of savings and cost was based on actual timing, and discounting of costs incurred and benefits over the project period. Specifically, the analysis involved recalculation of the costs for purchasing locomotive spare parts, recalculation of the savings from increased locomotive availability, and recalculation of the savings derived from the VERS program.

3.6.1.1 *Description of Benefits and Costs*

The economic analysis has taken into account two key benefits directly attributable to the project. These include: (i) savings or avoided costs (i.e., salaries, pensions and other remunerative benefits, etc.) derived from railway employees taking early retirement under the Voluntary Early Retirement Scheme), and (ii) net revenues or savings derived from the availability of locomotives due to the supply of spare parts.

Cost elements include: (i) the economic cost of the unavailability of locomotives; (ii) locomotive maintenance costs, and (iii) the cost of spare parts.

3.6.1.2 *Results of Economic Analysis*

The complete results and assumptions of the economic analysis are presented in Annex C.2. The Economic Rate of Return (ERR) and the Net Present Value (NPV) at 12 percent are respectively 10 percent US$426,148. Although, the CILP returned a positive NPV and a 10 percent ERR, these results indicate amending the original project was only marginally justified from an economic perspective. Higher economic returns could have been achieved from alternative project investments. The key factor that accounts for such low economic returns was NRZ's high locomotive unavailability costs in the initial years of the project. Between 6 and 8 of the DE 10As and DE 11As class locomotives were unavailable for service during the project period.

3.6.2 Development Impact

3.6.2.1 *Private Sector Impact*

Although the CILP was designed to promote private sector participation in locomotive repairs and inter-modal transport competition, implementation of the CILP involved only a nominal role for the private sector in banking, and in the importation of authorized goods. As such, the Evaluation Team found the CILP had no significant impact on the private sector.

3.7 End of Project Status

The Project Paper Supplement (PPS) specified two End Of Project Status (EOPS) indicators as a means of objectively verifying the impact of the project inputs. The indicators covered by the EOPS include workforce reduction and inter-modal transport operations.

3.7.1 Workforce Reduction

The EOPS for workforce reduction, as presented in Amendment Number 2 of the PPS specified a reduction in NRZ's workforce of 3,000 employees. The measurable indicator and means of verification were respectively reduced NRZ payroll and NRZ payroll records. Although this EOPS was not achieved, NRZ did make considerable progress towards achieving this EOPS by substantially reducing its labor force. Between 1994 and 1997 financial years, the railways labor force decreased by 17.8 percent to 11,434 from 13,918 employees. This represents a workforce reduction of 2,484 employees just 516 employees under the EOPS target of 3,000. Of this amount, USAID assistance under the project accounted for 400 employees or 16 percent of the reduction in workforce.

3.7.2 Inter-modal Transport Operations

No results can be reported on this EOPS. This component of the project was not achieved because the project assistance which would have provided support to road transporters and road construction equipment firms was not implemented for reasons previously discussed. In 1997, the remaining project funds of US$1.4 million were deobligated.

3.8 Sustainability of Development Accomplishments

The medium- to long-term prospects for sustainability of the project achievements are promising. Under a proposed new World Bank financed restructuring project, NRZ will be separated into three entities (e.g. infrastructure, equipment and operations, etc.) and prepared for concessioning or privatization. Project assistance provided under the CILP to improve NRZ's operational and financial performance supports future restructuring of the railway. Key development accomplishments of USAID assistance was reducing the labor force and improving locomotive availability for NRZ. The new World Bank's project adds to the sustainability of the project achievements by concessioning the locomotives maintained with USAID project assistance and building upon the reduction in workforce financed by USAID under the Voluntary Early Retirement Scheme.

3.8.1 Liberalized Foreign Exchange Regime

One of the main factors that may have contributed to the project not being implemented as designed was the liberalization of the foreign exchange regime under the Economic Structural Adjustment Program in 1993. The liberalized foreign exchange regime effectively undermined the rationale for the CILP. And as such, private firms no longer had limited access to foreign exchange for the importation of transport-related equipment and spare parts. To the extent the foreign exchange regime is maintained and the Government does not revert to the old practices of foreign exchanges restrictions, the prospects for sustaining and building upon the accomplishments of the project are promising.

CHAPTER 4.0 FINDINGS, CONCLUSIONS AND LESSONS LEARNED

4.1 Introduction

This Chapter summarizes the main findings and conclusions of the evaluation and final close-out of the Regional Transport Development II Project (690-0248). The findings and conclusions of the impact assessments are presented below. These findings are grouped into four categories: (i) the final level of inputs and outputs of CILP; (ii) the End Of Project Status; (iii) the development impact of the spare parts purchased under the CILP; and (iv) the sustainability of development accomplishments. The chapter also presents lessons learned and the potential to inform other project designs, implementation processes and project management approaches.

4.2 Final Level of Inputs and Outputs - Commodity Import-Like Program

The CILP was designed to contribute to: (1) improved inter-modal transport competition and (2) improved operational efficiency of NRZ. Under the inter-modal component, project assistance would provide private sector financing for imported spare parts for the establishment of a locomotive maintenance center and road transport equipment and spare parts. To improve operational efficiency at NRZ, the CILP would fund staff reductions under the VERS program.

Although the CILP's objectives were broad, its activities and impact did not meet expectations. The key factors contributing to this were: (a) the ambitious nature of the project design, which was unmatched by commensurate project resources; (b) the new market-based foreign exchange regulation in Zimbabwe, which negated the CILP's financial incentives for importers; and (c) the discontinuity in project management.

Equipment Financing. The CILP financed only a single procurement of locomotive spare parts for NRZ and no road transport sector equipment or spares parts, as envisaged by the PPS. The US$3 million for locomotive spare parts was a transaction only nominally involving the private sector. The remaining US$1.4 million was eventually deobligated in 1997.

Voluntary Early Retirement Scheme. Although the CILP expected to finance the retirement of 1,125 employees, the actual disbursements were sufficient to finance the retirement of only 400 employees. A reduction in the authorized funding for the CILP was one factor which contributed to this situation. Another significant factor was the average cost per employee seeking early retirement, which ended up costing the VERS program almost three times the project design estimate.

Project Administration and Management

Management. During the life of the CILP the project managers changed seven times. These personnel changes made it difficult to sustain consistent direction and follow-up, created inefficiencies and frustrated project administration. The inability to disburse all of the authorized CILP funding to finance imports was, in part, due to discontinuity in project management. After initial advertisement

in early 1995, little or no effort was made to interest private importers or to implement the inter-modal transport element of the CILP.

The CILP. USAID administered the CILP in accordance with U.S regulations and acceptable practices. Project administration proved costly despite the fact one component was not implemented as planned. The CILP's original objectives, purchase and payment procedures contemplated multiple importers, suppliers and end users. However, implementation of the CILP involved only one importer with nominal participation, a single supplier and a single end user. USAID expended considerable administrative effort to modify and streamline the procedures to more effectively meet the demands of the project..

Voluntary Early Retirement Scheme. Administration of VERS program disbursement was straightforward. The transfers took place without any major problems, and were supported by adequate documentation. There is no evidence or suggestion of impropriety in the NRZ Pension Fund's application of funds. The records and practices of the Fund indicate the local currency provided under the program was paid to NRZ employees taking early retirement under the VERS program.

Delivery of Goods and End Use. Information obtained in this evaluation indicates that the goods imported under the CILP were inspected properly and received by the appropriate end-user, NRZ. Moreover, that NRZ's inventory is adequately managed. And that the spare parts procured were used, or being held for use for the intended purpose of maintaining NRZ locomotives.

4.2.2 Implementation Results.

Despite being consistent with USAID's strategy to increase efficiencies in the rail sector by encouraging private sector involvement, promoting regionalism in resource use and supporting parastatal staff reductions, implementation of project elements was not without difficulty. The CILP was administratively unwieldy and the project objectives were costly to achieve.

Project administration. Implementation of the CILP resulted in expenditures, primarily by USAID, of administrative cost and effort. These administrative costs were primarily in the area of payment procedures, which could have been avoided had the implementation process been streamlined. In spite of this, administrative of the CILP was implemented in accordance USAID regulations for Commodity Import Programs.

The administration of the VERS program, in terms of disbursement procedures, was more straight-forward than the spare parts component. NRZ and USAID personnel worked closely together to implement VERS. NRZ's Pension Fund also applied the funds to retirement packages in accordance with the Project Agreement and USAID regulations.

Project management. Over the life of the CILP, the project managers changed seven times. This deprived the CILP of consistent management and follow-up, created inefficiencies and frustrated project administration. After initial efforts ended in early 1995, little or no effort was undertaken to

interest other importers in the CILP or implement the programís inter-modal transport objectives. This resulted in the curtailment of the project and the deobligation of US$1.4 of project funds. Changes in the project managers also contributed to the CILP component not being implemented as planned and the long period between procurement authorization and delivery date.

Delivery and use of resources. Information acquired in this Evaluation indicates that the parts ordered by the end-user, supplied by the U.S. and processed by the importer was done in accordance with USAID regulations. Moreover, inventory is adequately managed by the end-user and that the items are in use, or being held for use, for repair and overhaul of NRZ locomotives.

4.3 Economic and Development Impact

4.3.1 Operational Performance

The provision of locomotive spare parts under the project had a significant impact on NRZ'S operational performance. This impact was observed primarily in terms of reductions in the railway's locomotive maintenance backlog and an increase in locomotives availability.

Locomotive availability. From 1994 to 1996 the locomotive availability rates for class 9A shunting locomotive went from about 50 percent to approximately 80 percent as a direct result of the USAID financed re-engine program. Similarly, mainline locomotives such as the four rebuilt DE 10A locomotives went from 63 percent before 1994 to about 70 percent in 1997. Additionally, the 13 new DE 11As consistently achieved an annual average availability rate of approximately 80 percent from 1994 to 1997.

Freight traffic. Increased locomotive availability resulted in improved freight operations, as wagon utilization improved. Improved freight operations led to increases in the volume of rail freight traffic transported by NRZ. Total freight volumes went from 10.5 million metric tons in 1994 to 12.2 million metric tons in 1997, an increase of 16.5 percent or 1.74 million metric tons.

Staffing and productivity. Workforce reductions and increased labor productivity were key evaluative elements of the CILP. Project assistance provided under the CILP resulted in 400 employees taking advantage of the VERS program from 1994 to 1997. Similarly, staff productivity, as measured by net tons kilometers/employee, increased from 311 NTKMS/employee in 1994 to 426 NTKMS/employee in 1997.

4.3.2 Financial Performance

Despite the significant increase in NRZ's traffic from 1994 to 1997, the impact did not translate into an improvement of the railway's overall financial performance.

Operating revenues and expenses. NRZ had a net surplus in 1994 and 1995 of Z$33.6 million and Z$256.9 million. However, the railway's financial position in 1996 and 1997 revealed net deficits of Z$252.7 million and Z$184.2 million. NRZ did, however, have impressive operating revenue gains

for the period with a net operating surplus of Z$269 million. Operating revenues for rail services ranged from Z$994 million in 1994 to Z$1.55 billion in 1997 against operating expenses of Z$648 million and Z$1.106 million from 1994 to 1997. Although increases in rail tariffs were contributing factors, much of the operating revenue gain between 1994 and 1997 is directly attributable to the increases in the rail freight volume as a result of improved locomotive availability.

Wage revenue ratio. Despite the labor force reductions, NRZ did not achieve the wage-revenue ratio of 35 percent. This was primarily the results of an enhanced employee remuneration program to retain staff. From 1994 to 1997, NRZ's wage revenue ratio ranged from 56.6 percent to 54.2 percent, well in excess of the target ratio of 35 percent.

4.4 End of Project Status

The PPS identified two End of Project Status (EOPS) indicators for the project. They are workforce reduction and inter-modal transport operations. The results of the EOPS are presented below:

(i) *Workforce reduction.* The EOPS indicator for workforce reduction was a reduction in NRZ's workforce of 3,000 employees. NRZ did not achieve this EOPS but did make significant progress towards its achievement. Between the 1994 and 1997, the labor force decreased by 17.8 percent to 11,434 from 13,918 employees. This represents a workforce reduction of 2,484 employees which is 516 employees below the EOPS target of 3,000. USAID assistance under the project accounted for 400 employees or 16 percent of the total workforce reduction; and

(ii) *Improved inter-modal transport operations.* Although it was not implemented, this project component would have promoted inter-modal competition, as conceived of in the PPS. As such, no EOPS results are reported in this evaluation/ final close-out report. The project assistance would have provided support to road transporters and road construction equipment firms. And in 1997, USAID/Zimbabwe de-obligated the remaining project funds of US$1.4 million.

4.5 Sustainability of Development Accomplishments

The medium- to long-term prospects for sustainability of the project achievements are promising. Under a proposed new World Bank financed restructuring project, NRZ will be separated into three entities e.g., infrastructure, equipment and operations. These new entities would then be concessioned or privatized. Project assistance provided under the CILP to improve NRZ's operational and financial performance supports future privatization or concessioning of the railway. Key development accomplishments of USAID's assistance was reducing the labor force and improving the locomotive availability of NRZ. The new World Bank's project adds to the sustainability of the project achievements by concessioning the locomotives maintained with USAID project assistance and building upon the reduction in workforce financed by USAID under the Voluntary Early retirement Scheme.

4.5.1 Liberalized Foreign Exchange Regime

One of the main factors that may have contributed to the project not being implemented as designed was the liberalization of the foreign exchange regime under the Economic Structural Adjustment Program in 1993. The liberalized foreign exchange regime effectively undermined the rationale for the CILP. Because private firms no longer had limited access to foreign exchange to import transport-related equipment and spare parts the usefulness of the CILP became problematic. To the extent the foreign exchange regime is maintained and the government does not revert to the old practices of foreign exchanges restrictions the prospects for sustaining and building upon the accomplishments of the project are promising.

4.6 Conclusions and Lessons Learned

4.6.1 Conclusions

The main conclusions of this evaluation/final close- out report are the following:

- the project assistance was provided in accordance with U.S. procurement and disbursement procedures governing Commodity Import Programs and the use of local currency;
- the project was not implemented as originally designed, and the approved inputs such as assistance to the road transport sector was not provided;
- the full development impact of the project was adversely affected by the curtailment of the inter-modal transport operations component of the CILP and the deobligation of project funds amounting to US$1.4 million;
- the repeated changes in the USAID project managers, over the life of the project, did not allow for consistency of project implementation actions, follow-ups, monitoring of project impacts, and full assessment of the project needs;
- the project was successful in reducing the NRZ's locomotive maintenance backlog and improving the locomotive availability rates of the DE 10As and DE 11As mainline locomotives;
- the project achieved only limited, although significant success, in reducing NRZ's workforce because the average payout exceeded the PPS estimate by a factor of almost 3;
- NRZ was unsuccessful in reducing the wage-revenue ratio to 35 percent; and
- the financial and operational performance of the NRZ, particularly in rail freight transported and in operating revenues generated, improved significantly during the project.

4.6.2 Lessons Learned

The main lessons learned that may inform other project designs, implementation processes and project management are the following:

- For maximum complementary impact, new or amended project elements and programmatic activities should be consistent with, and closely aligned with those of the existing project framework;

- Project elements and programmatic activities should be sized to available resources, in terms of both cost of inputs and of administration and management;

- Administrative procedures should be designed such that their cost-effectiveness is in light of the project's expected development impact;

- Implementing a Commodity Import Like Program in an environment of a liberalized foreign exchange market effectively undermines the rationale for such a program. In an open market environment, private firms do not have limited access to foreign exchange, and are able to import the equipment and spare parts they require; and

- The CILP was over-designed, given its stated objective, the amount of resources available to implement the project elements, and the modality of implementation. Actual project achievements and the sustainability of these achievements could have been accomplished with far less management resources and in a more cost-effective manner.

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ANNEX A:
ASSESSMENT OF PROJECT ACCOMPLISHMENTS - PROJECT LOGICAL FRAMEWORK

ANNEX A

ASSESSMENT OF LOGICAL FRAMEWORK

Narrative Summary	Objectively Verifiable Indicator	Means of Verification	Measurable Indicators
Project Goal	Improve export performance contributing to economic growth.		
Sub-goal	A reduction in the economic losses attributable to costly and unreliable rail transport in the SADC region.		
Project Purpose (USAID component)	To strengthen and expand the capacity and operational efficiency of the Zimbabwe rail system.		
Project Inputs	1.Voluntary Early Retirement Scheme 2. Commodity Import-Like Program	1. Local currency financed VERS at Z$33.74 million. NRZ's personnel and accounting records. 2. Spare parts procured for US$3.0 million. Importer's record, NRZ's records.	
Project Outputs	1. Workforce reduced from 13,300 to 10,300. 2.Improved Inter-modal transport operations.	1.NRZ reduced labor force by 400 employees, 16% of target. 2. Project component not implemented, remaining of authorized funds of US$1.4 million deobligated.	1. NRZ records indicate this output was not achieved. 2. No results to report project element was not implemented.

ANNEX B:
TRACTION FLEET AND ROLLING STOCK

ANNEX B

Infrastructure and Equipment, 1994-1997

Description	1994	1995	1996	1997
Total Route Length	2759	2759	2759	2759
Traction Stock				
Diesel Locomotives	124	131	138	138
Electric Locomotives	16	18	17	17
Steam Locomotives	15	15	14	14
Total Traction Stock	**155**	**164**	**169**	**169**
Rolling Stock				
Passenger Cars	364	364	282	282
Freight Cars	11,840	12,027	11,456	11,385

ANNEX C:
TECHNICAL ANNEX

ANNEX C.1

NRZ's Income Statements for Financial Years 1994-1997

Description	1994	1995	1996	1997
Rail Revenue	838,831	993,911	1,196,499	1,554,964
Operating Expenses	647,962	798,328	963,010	1,106,227
Operating Surplus	190,869	195,583	233,489	448,737
Other Income	65,535	56,535	70,378	69,188
Other Expenditure	397,835	338,848	493,004	702,092
Gross Income	943,356	1,082,230	1,266,877	1,624,152
Gross Expenditure	1,077,986	1,170,959	1,456,014	1,808,319
Deficit before unitary system	134,630	88,729	189,137	184,167
Unitary system	168,217	345,596	(63,564)	(184,167)
Net surplus (deficit)	33,587	256,867	(252,701)	(184,167)

Source: National Railways of Zimbabwe, Chief Accountant and NRZ's 48th Annual Report, 1997.

ANNEX C.2: ECONOMIC ANALYSIS OF THE CILP (US$)

Year	Spare Parts Acquisition Cost	Maintenance Cost	Locomotive Unavailability Cost	Total Costs	Locomotive Availability Savings	Employees Remunerative Savings	Total Savings	Net Benefits	Discounted Net Benefits (12%)
1994	$0	$0	$227,206	$227,206	$0	$0	$0	($227,206)	($254,470)
1995	$0	$0	$2,110,537	$2,110,537	$0	$0	$0	($2,110,537)	($2,647,458)
1996	$0	$0	$1,782,300	$1,782,300	$867,725	$0	$867,725	($914,574)	($1,284,911)
1997	$2,848,658	$154,725	$1,609,481	$2,860,733	$2,533,149	$2,848,658	$5,381,807	$2,521,073	$3,966,958
1998	$12,075	$309,450	$501,333	$822,858	$2,702,025	$12,075	$2,714,100	$1,891,242	$3,333,014
1999	$0	$464,175	$140,373	$604,548	$2,107,580	$1,430,366	$3,537,946	$2,933,398	$5,790,007
2000	$3,133,524	$928,350	$39,305	$4,101,179	$1,517,457	$1,430,366	$2,947,824	($1,153,355)	($2,549,700)
2001	$2,563,793	$464,175	$39,305	$3,067,272	$1,092,569	$1,430,366	$2,522,936	($544,336)	($1,347,757)
2002	$0	$541,538	$140,373	$681,911	$874,055	$1,430,366	$2,304,422	$1,622,511	$4,499,351
2003	$0	$599,559	$59,893	$659,452	$699,244	$1,430,366	$2,129,611	$1,470,159	$4,566,090
2004	$3,446,877	$633,405	$46,479	$4,126,761	$559,396	$1,430,366	$1,989,762	($2,136,999)	($7,433,659)
2005	$2,307,413	$559,669	$47,675	$2,914,758	$447,516	$1,430,366	$1,877,883	($1,036,875)	($4,039,639)
2006	$0	$583,543	$49,070	$632,613	$358,013	$1,430,366	$1,788,379	$1,155,767	$5,043,179
2007	$0	$594,044	$33,853	$627,897	$286,411	$1,430,366	$1,716,777	$1,088,880	$5,321,478
2008	$5,170,315	$592,665	$29,513	$5,792,493	$229,128	$1,430,366	$1,659,495	($4,132,998)	($22,622,239)

ERR 10%

NPV@12% $426,148

Assumptions:

Locomotive hauling capacity:1,700 gross trailing load;
Payload/gross load ratio: 0.65
Percentage of empty returns: 35 %
Average train engine KM/total engine KM: 66,947
Average loco KM/total available loco: 79,000
Revenue per NTKM: US$0.03
Average loco availability rate:72 %

ANNEX D:
SCOPE OF WORK

ANNEX D

SCOPE OF WORK

ARTICLE I - TITLE

National Railways of Zimbawbwe (NRZ) Final Close-out

ARTICLE II - BACKGROUND

In August 1990, USAID entered into an Agreement with the Government of Zimbabwe, entitled National Transport Development II-Zimbabwe Railways, Project No. 690-0248 in the amount of $9,372,791. This project comprised USAID's contribution to a multi-donor program of operational, financial and managerial restructuring of the National Railways of Zimbabwe. The goal to which the project contributed was to improve the export performance contributing to economic growth. The sub-goal was a reduction in economic losses attributable to costly and unreliable rail transport in the SADCC (now SADC) region. The specific purpose of the project was to strengthen and expand the capacity and operational efficiency of the Zimbabwe rail system. It was anticipated that at the end of the project:

1. exports and imports from Zimbabwe and regional transit traffic will not be constrained by the age, condition or non-standardization of locomotive fleet;

2. NRZ will effectively manage the maintenance of its locomotive fleet;

3. diesel electric locomotive availability will have improved from 53% to 75%;

4. shunting locomotive availability will have improved from 25% to 75%;

5. different locomotive types will have been reduced from 17 to 5;

6. operating costs of NRZ will be reduced by at least 20% from 1990 levels; and

7. NRZ will have achieved net profitability and positive return on capital invested of at least 12% per annum.

To achieve these objectives the project financed the procurement of 13 new diesel electric locomotives with 1,700 ton trailing along with spare parts and training. In addition 46 new locomotive engines with spare parts and technical assistance in engine maintenance and repair were also purchased.

In Amendment No. 2 of March, 1991, the Project Agreement was amended to increase the amount of funding for this activity to $39,399,791.

In 1994, an evaluation of this project was conducted. It found that most of the objectives were on track and/or were being met. However, one problem area was the reduction in the amount of cargo being carried.

In Amendment No. 3 of February, 1995, the Project was again amended to provide financing for the following additional activities:

1. The repair and rehabilitation of 4 damaged locomotives under contract with the local representative of GM/EMD -General Motors (Electro Motor Division) serving as a pilot test of the efficiency and cost effectiveness of using the private sector to perform locomotive maintenance/repair work;

2. A workshop/depot modernization study to investigate options for NRZ to implement techniques in support of organizational; restructuring, including contracting for maintenance and farming out certain depot customer service operations such as catering to concession operators;

3. Management Training for senior railway officials in such areas as management information systems, productivity improvements and financial cost accounting;

4. Leasing of locomotives and wagons to assist NRZ in the movement of relief food required to prevent malnutrition and famine that could have resulted from the 1991/1992 drought;

5. A Commodity Import Like Program (CILP) to finance spare parts and equipment for the transport sector; and

6. A Voluntary Early Retirement Scheme (VERS) under which NRZ would reduce its work force from 13,300 to 10,300 by 1997 to be funded with local currency generations from the above CILP component

The project completion date was expected to be September 30, 1997. However, given the lack of a formal close-out report and end use survey of the CILP component, USAID approved a twelve month extension (PACD 09/30/98) in order to complete these required activities.

ARTICLE III - OBJECTIVE

The objective, (for the period 1994-1997 and referring to the 1994 Project Evaluation document as a key document,) of this task order is:

(i) To identify the final level of inputs and outputs provided through the project,

(ii) To provide an end of project status regarding achievements of the objectives,

(iii) To identify the developmental impact of the spare parts purchased under the CILP component,

(iv) To assess the sustainability of development accomplishments, the positive and/or negative effects and impacts produced by the activity on the intended beneficiaries, particularly the economic, social and political factors that may have facilitated or impeded the developmental impact and the sustainability of the improvements resulting from the project.

To meet this objective the Contractor shall (a) review USAID documentation; (b) collect, review and analyze data from NRZ, O. Conolly (local parts agent), appropriate banks, the Central Bank, etc, and (c) meet with various GOZ, NRZ and private sector officials.

The Contractor shall base its findings on the tasks described below.

ARTICLE IV - SCOPE OF WORK

The Contractor shall complete the following tasks:

1. End Use Survey/CILP Evaluation

   a. Review Grant Agreement, implementation letters, prior audit reports for general background information and determine whether there are restrictions/conditions regarding usage of commodities;

   b. review and compare applicable Letters of Commitments, Letters of Credit, files and accounting ledgers to determine importer's responsibilities, dollar value, shipping and billing instructions, completeness of shipping documents, accuracy of ledgers, and spare parts arrivals to date;

   c. visit O. Conolly and NRZ and prepare profiles for the importer and end user containing the following information: name of firm/organization, location, people interviewed/contacted with title, major product or service, dollar value of parts imported/purchased; to whom were parts resold, to what extent the parts permitted (a) maintenance or (b) increase in firm's total sales, to what extent parts imports have increased maintenance or employment; impact of CILP on private sector and public sector, effect of using commercial banks/supplier credit, etc. Also obtain copies of parts orders, shipping documents, custom's clearance documents, etc., for at least 50 percent of the parts acquired under the CILP component;

   d. interview local bank(s) to ascertain: (i) how long did the bank participate in the CILP activity? (ii) what percentage of its import transactions were CILP financed? (iii) to what extent did handling CILP transactions affect bank income? (iv) does the bank make a distinction between its CILP customers and those using regular import channels? (v) what are the current terms charged by the bank for local currency loans to buy dollars for CILP and non-CILP transactions? (vi) what is the percentage of defaults of CILP borrowers? (vii) what are bank's chief complaints about the effects of CILP transactions on its operations? and (viii) how does the bank view impact of CILP activity on private sector, public sector, and transport industry?

   e. verify information acquired from USAID with that of O. Conolly and NRZ's property and accounting records; actual parts on hand, parts used or resold, sales records, work orders, etc;

   f. ascertain whether claims have been filed for all losses, shortages, damaged parts, and whether insurance proceeds are used in accordance with USAID Regulation I;

g. ascertain whether: (i) the goods were utilized properly and in a timely manner; (ii) the desired results and benefits were achieved; and (iii) the objectives of the CILP component were met;

h. verify that local currencies deposits into and disbursements from the special account were done in accordance with the agreed upon procedures.;

i. assess the economic impact of the CILP on private sector participation in transport, rail pricing policies, etc;

j. assess the effect on policy dialogue of the CILP between USAID, other donors and GOZ regarding the NRZ;

k. assess the developmental impact of the CILP; and

l. assess the efficiency and management of CILP activity.

(Note Indicators for 1 i - l above can be found in USAID Handbook 4 Chapter 9.)

2. Host Country Contracts

Comment on the administration and close-out of the NRZ contracts for 13 diesel electric locomotives, spare parts and technical assistance and 43 locomotive engines, spare parts and technical assistance;

3. Efficiency/Improvement

a. Assess the average availability rate of the new diesel electric locomotives (D 11) from the period covered by the 1994 evaluation through 9/30/97 and how they compared with the other categories of mainline locomotives;

b. assess the average availability of the re-engined diesel electric locomotives (D 9) from the period covered by the 1994 evaluation through 9/30/97;

c. assess the availability of wagons to meet freight demand and ascertain whether they were being utilized efficiently as measured by average pay load, empty running ratio and net ton kilometer/wagon from the period covered by the 1994 evaluation through 9/30/97;

d. assess sufficiency of training of maintenance personnel to maintain all categories of mainline and shunting locomotives within the current fleet from the period covered by the 1994 evaluation through 9/30/97;

e. assess the adequacy of the workshop facilities, including tools and equipment, to support the maintenance program required for the current fleet of locomotives from the period covered by the 1994 evaluation through 9/30/97;

f. assess the adequacy of the inventory of maintenance and capital spares to maintain all categories of locomotives from the period covered by the 1994 evaluation through 9/30/97; and

g. collect data on the freight tonnages hauled in 1994, 1995, 1996 and 1997.

4. Capacity

a. Assess sufficiency of NRZ's rolling stock to meet future needs;

b. assess the adequacy of the workshop facilities for future needs; and

c. assess project personnel levels and categories needed to meet future needs.

5. Subsidies

a. Ascertain whether the USAID contributions have resulted in the scrapping of aged and uneconomic assets and the timeliness thereof; and

b. collect data on real subsidy levels at NRZ in 1994, 1995, 1996 and 1997.

6. Assess effects of increased tariffs upon the end use price of key commodities from the period covered by the 1994 evaluation through 9/30/97.

7. Assess composition of NRZ employees who received project funded technical training to determine the extent to which women have been included.

8. Identify the volume of NRZ carried export traffic destined for Mozambican and South African ports, the volume of NRZ traffic originating in Mozambican and South African ports, the volume of transit traffic comprising other intra-regional trade, and the volume of NRZ services supporting Mozambican internal freight movements from the period covered by the 1994 evaluation through 9/30/97.

9. Comment on the operational changes resultant from the provision of new and rebuilt locomotives and the impact on NRZ operational and financial performance from the period covered by the 1994 evaluation through 9/30/97.

10. Assess the impact of NRZ's authority to unilaterally increase rail tariffs on an annual basis to cover, at a minimum, the estimated direct costs of transportation of commodities carried, adjusted for inflation from the period covered by the 1994 evaluation through 9/30/97.

11. Assess the impact of NRZ's expedited GOZ's administrative approval procedure for capital equipment procurement from the period covered by the 1994 evaluation through 9/30/97.

12. Assess the status of NRZ incorporating into the Terms of Reference for the World Bank funded Manpower Survey, the analysis of employment and advancement of women within

NRZ and measures taken to employ and promote women from the period covered by the 1994 evaluation through 9/30/97.

13. Assess progress made by GOZ and NRZ on financial restructuring, e.g., transfer of debt to equity from the period covered by the 1994 evaluation through 9/30/97.

14. Assess the pros and cons of the multi-donor structure used for the project, e.g., donor and NRZ satisfaction, effect on project implementation, effect on NRZ policy changes due to leveraging of donor resources and donor coordination.

15. Assess the efficiency and cost effectiveness of using the private sector to perform locomotive maintenance and/or repair work.

16. Ascertain whether any recommendations from the workshop/depot modernization study were implemented by NRZ and impact/effect.

17. Ascertain whether Management Training for senior railway officials in management information systems, productivity improvements and financial cost accounting occurred and assess impact on overall management, productivity and financial management.

18. Assess the impact/effect of leasing of locomotives and wagons to assist NRZ in the movement of relief food following the 1994/1995 drought.

19. Ascertain the status of the Voluntary Early Retirement Scheme (VERS) under which NRZ was to reduce its work force from 13,300 to 10,300 by 1997 and assess the impact/effect on the NRZ work force. ***Ascertain if the local currency generations paid to NRZ were, in fact, disbursed to the intended retirees.***

ARTICLE V - REPORTS AND DELIVERABLES

1. The Contractor shall prepare and submit a Project Assistance Completion Report to the COTR, USAID/Zimbabwe by the dates specified. This report shall provide empirical findings based on the above tasks, conclusions, interpretations and judgements that are based on the findings, end-of-project status, and lessons learned.

2. The Project Assistance Completion Report shall focus on:

   a. Where the project is at the point of evaluation, including the status of completion of various project elements (e.g. procurement, construction, technical assistance, training);

   b. a summary of actual contributions made by USAID;

   c. a brief review of project accomplishments in light of: conditions at the outset (initially planned outputs), the expectations of the project design and changes in the project

environment and/or design during implementation (including a comparison of revised outputs and actual outputs);

d. if possible, an assessment of the extent to which the project has resolved or is resolving the original problem (i.e., progress towards achievement of the initial and, if appropriate, the revised purpose);

e. a summary of lessons learned from the project that might be relevant to programming, design and implementation of other activities by other regional USAID offices or donors.

3. The report shall be organized as follows:

-- Table of Contents

-- Executive Summary (maximum length: 3 pages) stating the objectives of the project, purpose of the report, methodology, findings, conclusions, recommendations and lessons learned.

-- Body of the Report including discussion of (1) the purpose and tasks; (2) the economic, political, and social context of the project when designed and upon completion; (3) team composition and methodology; (4) evidence/findings of tasks; (5) status of inputs and outputs at end of project; (6) conclusions drawn from the findings; (7) recommendations; and (8) lessons learned (maximum length: 40 pages.)

-- Appendices including a copy of the scope of work, a list of documents consulted and individuals and agencies/firms contacted, and detailed discussion of methodology. Substantive discussion of technical topics will be included as appendices if and as necessary.

Although each team member will provide written sections in his/her area of responsibility, the team leader will have ultimate responsibility for the final product.
The Contractor shall submit the report in hard copy (number of copies specified below) and one copy of the final report in diskette format using WordPerfect 5.2 for narrative and Lotus 4.0 for tables/graphics.

Three (3) copies of the first draft Project Assistance Completion Report shall be submitted no later than the end of the team's third week in Zimbabwe.

Three (3) copies of the second draft report for review and comment shall be submitted no later than 10 days prior to the team leader's departure from Zimbabwe. USAID/Zimbabwe shall provide its comments on the draft report to the Contractor no later than 5 days after receipt of the draft report.

Five (5) copies of the final report shall be submitted by courier and one copy electronically no later than one week after submission of comments to the contractor by USAID/Zimbabwe. Final report preparation shall take place in the United States.

ANNEX E:
PROFILE OF END-USER AND IMPORTER

ANNEX E.1

Profile of End-User

Name of Firm: National Railways of Zimbabwe (NRZ)

Person(s) Interviewed: Alvord Mabena, General Manager and Chief Executive; Evans Simba Marowa, Assistant General Manager (Technical Services); Sam Zumbika, Assistant General Manager, Personnel & Administration; L.C. Mkandhla, Chief Accountant (Acting Assistant General Manager, Finance); Frank Bhule, Assistant Chief Accountant, Finance and Revenue (Acting Chief Accountant); Stanford Ndongwe, Assistant Mechanical Engineer; Vincent N. Ndlela, Systems Development Co-Ordinator; K.P. Magunda, Manager, Supplies and Stores; M.E.N. Zinhumwe, Senior Supplies Officer (Procurement); David Malunguza (Stores); Mdudzi Huggins Mlotshwa, Storekeeper

Location: NRZ executive offices, mechanical shops and stores in Bulawayo, Zimbabwe

Major Product or Service: Freight and passenger rail transport

Estimated Dollar Value of Parts Purchased: US$2.86 million of locomotive spare parts

To Whom Parts Were Resold: NRZ is the end user

To What Extent Parts Permitted

1. **maintenance**: Parts were and are used to maintain GM locomotives in NRZ's fleet

2. **increase in the firms total sales**: N/A (except to the extent that NRZ needs motive power, which the parts help to maintain) to move freight or passengers to produce revenue

3. **increase in employment**: NA

Effect of Using Commercial Banks/Supplier Credit: No commercial bank credit employed. Supplier provided 60 days terms to USAID. NRZ payment was due 120 days after USAID's payment to the supplier, but no borrowing was involved.

Impact of CILP on Private Sector and Public Sector: No impact on private sector. Public sector impact limited to NRZ's ability to maintain its locomotive fleet.

ANNEX E.2

Profile of Importer

Name of Firm: O. Conolly & Co. (PVT) Ltd.

Person(s) Interviewed: Gavin Conolly, Managing Director; Dereck Madzingira (sales)

Location: Two locations in Bulawayo, Zimbabwe

Major Product or Service: Production of iron and steel castings, heavy machining work for large scale equipment; structural steel and plate fabrication; sales representation for General Motors locomotive products and Nordberg mining equipment

Estimated Dollar Value of Parts Purchased: US$2.86 million of locomotive spare parts (price paid by NRZ in local currency equivalent, which Conolly passed through to RTD II project Special Account)

To Whom Parts Were Resold: National Railways of Zimbabwe

To What Extent Parts Permitted

1. **maintenance**: NA, in terms of Conolly; parts were and are used to maintain GM locomotives in NRZ's fleet;

2. **increase in the firms total sales**: Under Sales Representative Agreement with GM, Conolly receives a 5% commission on the price of parts sold and delivered by GM for use in Zimbabwe; and

3. **increase in employment**: NA

Effect of Using Commercial Banks/Supplier Credit: No commercial bank credit employed. Supplier provided 60 days terms to USAID, which paid the supplier. NRZ was required to pay 120 days thereafter. NRZ and Conolly employed a "back-to-back" payment scheme: NRZ paid Conolly's bank the local currency equivalent of the purchase price paid to the supplier by USAID; Conolly's bank simultaneously transferred those funds to the RTD II Special Account.

Impact of CILP on Private Sector and Public Sector: No impact on Conolly or other private sector firms. Public sector impact limited to NRZ's ability to maintain its locomotive fleet.

ANNEX F:
CONTACT LIST

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